ORDER NO. MD9608061C2

Service Manual

COMPACT disc DIGITAL AUDIO

MASH* multi-stage noise shaping

CD Stereo System

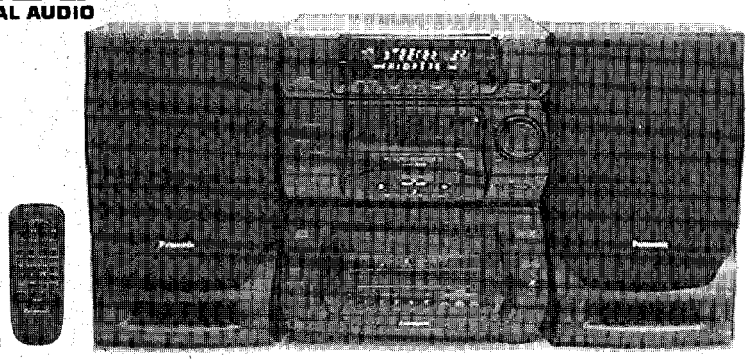
SA-CH64M

Colour

(K) . . . . . Black Type

Area

Suffix for Model No.	Area	Colour
(E)	Continential Europe	(K)
(EB)	Great Britain	
(EG)	Germany and Italy	



Remote Control Transmitter SB-CH64 SA-CH64M SB-CH64

* MASH is a trademark of NTT.

TAPE SECTION : AR-2 MECHANISM SERIES
CD SECTION : RAE0150Z TRAVERSE DECK SERIES

System	Music Center	Speaker
SC-CH64M (E)	SA-CH64M (E)	SB-CH64 (E) (made in PAES)
SC-CH64M (EB)	SA-CH64M (EB)	
SC-CH64M (EG)	SA-CH64M (EG)	

■ Specifications

■ Amplifier Section

1 kHz continuous power output, both channels driven	
DIN	2 x 20 W (THD 1%, 6 Ω)
RMS	2 x 25 W (THD 10%, 6 Ω)
Total harmonic distortion	
Half power at 1 kHz	0.07% (6 Ω)
Frequency response	
AUX	60 Hz – 20 kHz (–3 dB)
Input sensitivity and impedance	
AUX	250 mV, 22 kΩ
Tone controls	
6-EQ SPACE modes	HEAVY, CLEAR, SOFT, DISCO, LIVE, HALL
V. Bass (Volume at –30 dB)	63 Hz, 7 dB
Load impedance	6 Ω

■ FM Tuner Section

Frequency range	87.50 – 108.00 MHz
Sensitivity	23.3 dBf (4.0 µV, IHF '58)
Total harmonic distortion	
MONO	0.3%
STEREO	0.5%
S/N MONO	60 dB (65 dB, IHF)
Antenna terminal(s)	75 Ω (unbalanced)

■ CD Section

Sampling frequency	44.1 kHz
Decoding	16 bit linear
Beam source / wave length	Semiconductor laser / 780 nm
Number of channels	Stereo
Frequency response	20 Hz – 20 kHz (+1 dB, –2 dB)
S/N ratio	
SP OUT	85 dB (JIS.A)
Wow and flutter	Below measurable limit
Digital filter	8 fs
D/A converter	MASH (1 bit DAC)

■ AM Tuner Section

Frequency range	
MW	522 – 1611 kHz
LW	144 – 288 kHz
Sensitivity (for 500 mW)	
MW (at 999 kHz)	250 µV/m
LW (at 252 kHz)	500 µV/m

■ Cassette Deck Section

Track system	4 track, 2 channels
Heads	
Record/playback	Solid permalloy head (Rotary head)
Erasure	Double gap ferrite head
Motor	DC servo motor
Recording system	AC bias 100 kHz
Erasing system	AC erase 100 kHz
Tape speed	4.8 cm/s
Frequency response [(+3 dB, –6 dB) at deck out]	
NORMAL	35 Hz – 14 kHz
S/N ratio	50 dB (A weighted)
Wow and flutter	0.18% (WRMS)
Fast forward and rewind time	Approx. 120 seconds with C-60 cassette tape

■ General

Power supply	AC 50 Hz, 230 V (E, EG) AC 50 Hz, 230 – 240 V (EB)
Power consumption	100 W
Dimensions (W x H x D)	270 x 347 x 424 mm
Weight	9.7 kg

Notes :

1. Specifications are subject to change without notice. Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

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⚠ WARNING

This service information is designed for experiense repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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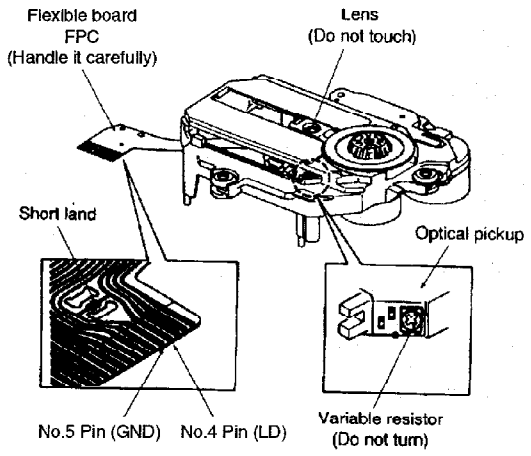
■ Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C547, C548 and C549 through a 10Ω , 5W resistor to ground.
DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.
After repairs are completed, restore power gradually using a variac, to avoid overcurrent.
Current consumption at 230V (for E, EG) or 230 – 240V (for EB), 50 Hz in NO SIGNAL mode should be less than 250mA.

■ Handling Precautions for Traverse Deck

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body. So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

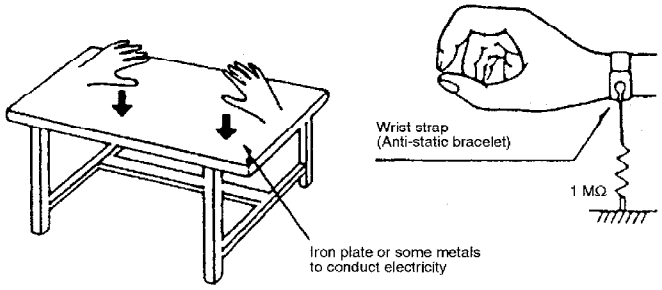


- **Handling of traverse deck (optical pickup)**

1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. The short land between the No.4 (LD) and No.5 (GND) pins on the flexible board (FPC) is shorted with a solder build-up to prevent damage to the laser diode.
   To connect to the PC board, be sure to open by removing the solder build-up, and finish the work quickly.
3. Take care not to apply excessive stress to the flexible board (FPC board).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

- **Grounding for electrostatic breakdown prevention**

1. Human body grounding
   Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding
   Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is placed, and ground the sheet.



Caution :
The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).

■ Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

Note:
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

■ Precaution of Laser Diode

CAUTION : This product utilizes a laser diode with the unit turned "ON", invisible laser radiation is emitted from the pick up lens.
Wavelength : 780 nm
Maximum output radiation power from pick up : 100 μW/VDE

Laser radiation from pick up unit is safety level, but be sure the followings:

1. Do not disassemble the optical pick up unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pick up unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pick up lens for a long time.

ACHTUNG: Dieses produkt enthält eine laserdiode. Im eingeschalteten zustand wird unsichtbare laserstrahlung von der lasereinheit abgestrahlt.

Wellenlänge : 780nm
Maximale strahlungsleistung der lasereinheit :100μW/VDE

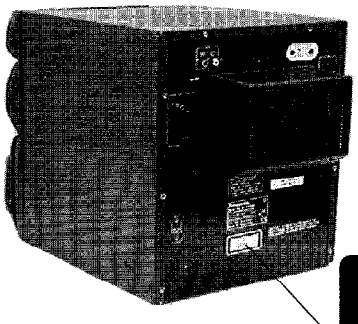
Die strahlung an der lasereinheit ist ungefährlich, wenn folgende punkte beachtet werden:

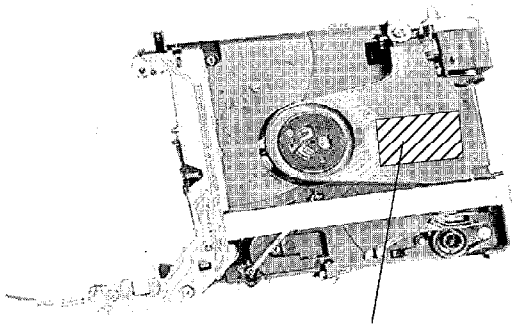
1. Die lasereinheit nicht zerlegen, da die strahlung an der freigelegten laserdiode gefährlich ist.
2. Den werkseitig justierten einstellregler der lasereinhit nicht verstellen.
3. Nicht mit optischen Instrumenten in die fokussierlinse blicken.
4. Nicht über längere zeit in die fokussierlinse blicken.

ADVARSEL: I dette a apparat anvendes laser.

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

■ Use of Caution Labels





CLASS 1
LASER PRODUCT

LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

DANGER	INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
ADVARSEL	USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTÖNTÄ LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING	OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVARSEL	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.

■ Caution for AC Mains Lead

[For [EB] area.]
For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark ⟨ASTA⟩ or the BSI mark ⟨BSI⟩ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover, the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION !
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OFF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted, please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT
The wires in this lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

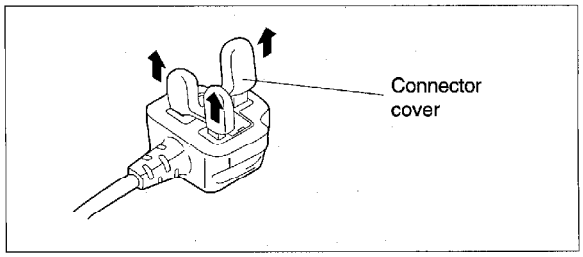
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

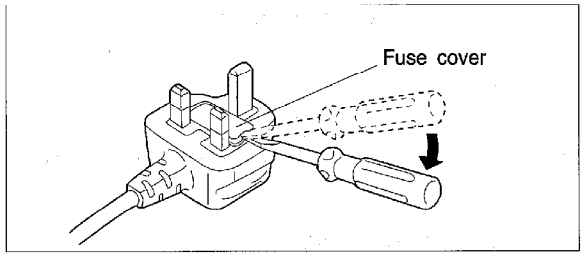
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either or these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth symbol ⏚ .

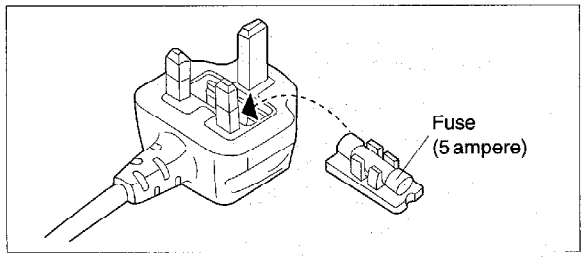
Before use
Remove the connector cover as follows.



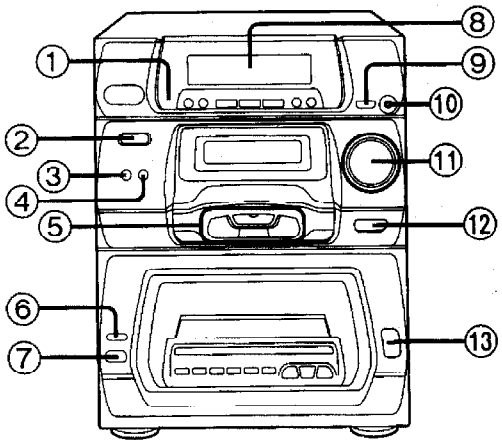
How to replace the fuse
1. Remove the fuse cover with a screwdriver.

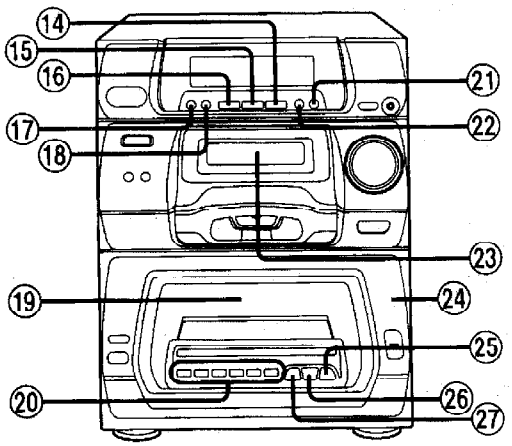


2. Replace the fuse and attach the fuse cover.



■ Location of Controls





No.	Name
①	**Remote control sensor**
②	**Power "STANDBY ⏻/ON" switch (POWER, STANDBY ⏻/ON)**
③	**Reverse mode select button (REV MODE)**
④	**Recording start/stop button (REC START/STOP)**
⑤	**Basic operating buttons** Buttons change according to the source.
⑥	**CD edit button (CD EDIT)**
⑦	**Single play button (SINGLE PLAY)**
⑧	**Display**
⑨	**V. BASS/DEMO button (-V. BASS/–DEMO)**
⑩	**Headphones jack (PHONES)**
⑪	**Volume control (VOLUME)**
⑫	**Cassette holder open button (▲ OPEN)**
⑬	**Disc skip/group name select button (DISC SKIP/GROUP NAME)**

No.	Name
⑭	**Tuner/band select button (TUNER, BAND)**
⑮	**CD button (CD)**
⑯	**Tape button (TAPE)**
⑰	**Record timer/play timer button (◴ REC/◴ PLAY)**
⑱	**Clock/timer button (CLOCK/TIMER)**
⑲	**Window**
⑳	**Group file select buttons (GROUP FILE)**
㉑	**EQ space select button (EQ SPACE)**
㉒	**AUX button (AUX)**
㉓	**Cassette holder**
㉔	**Rack panel**
㉕	**Group name enter button (NAME ENTER)**
㉖	**Group disc enter button (DISC ENTER)**
㉗	**Group mode select button (MODE)**

■ Operation Checks and Main Component Replacement Procedures

"ATTENTION SERVICER" Some chassis components may have sharp edges.
Be careful when disassembling and servicing.

Warning : This product uses a laser diode. Refer to caution statements on page 3.

ACHTUNG : • Die lasereinheit nicht zerlegen.
• Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**
3. **Select items from the following index when checks or replacement are required.**

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• **Disassembly of the Loading Unit, Operational Parts and Traverse Unit.**
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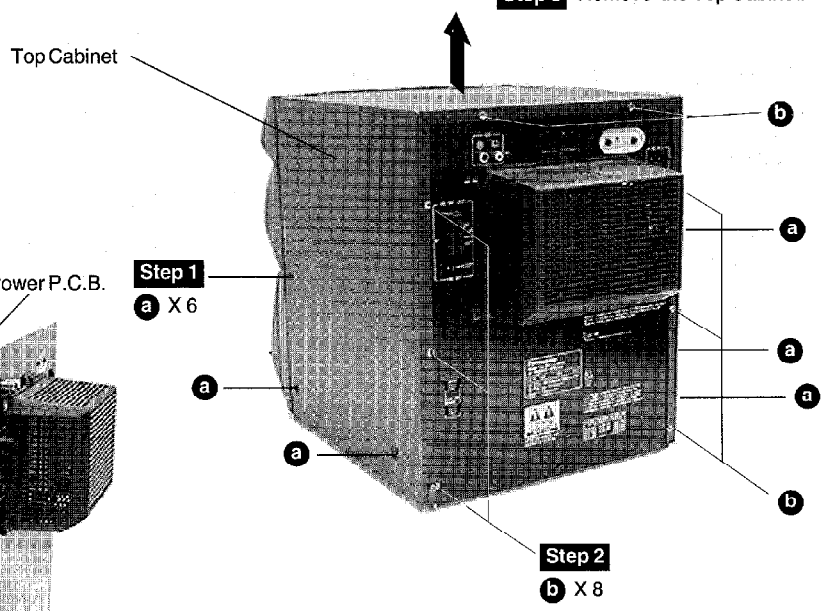
3. Disassembly of the Traverse Unit. 11

• **Replacement of the Traverse Deck** 11

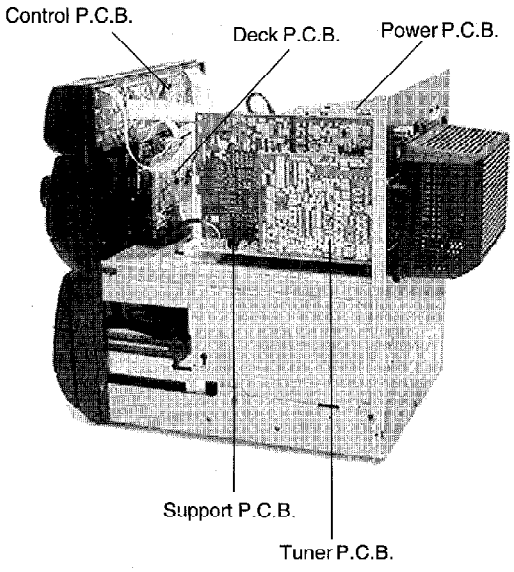
■ Checking Procedure for Major P.C.B.

1. Checking of Tuner P.C.B., Deck P.C.B., Power P.C.B., Support P.C.B. and Control P.C.B.

Step 3 Remove the Top Cabinet.



Step 4 Check the Tuner P.C.B., Deck P.C.B., Power P.C.B., Support P.C.B. and Control P.C.B. as shown below.



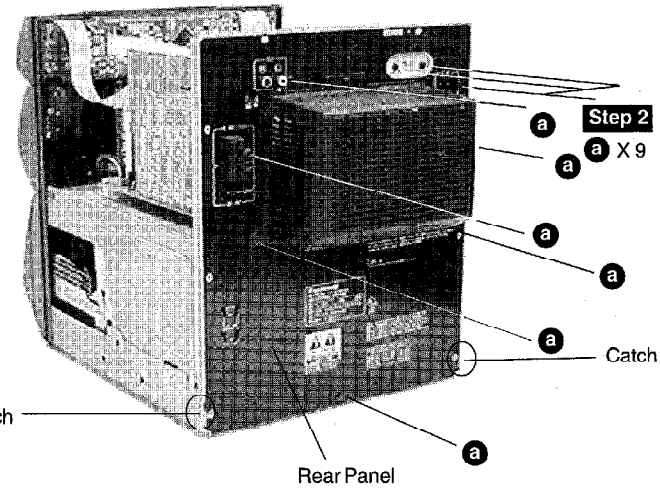
a [RHD30007] (Black)

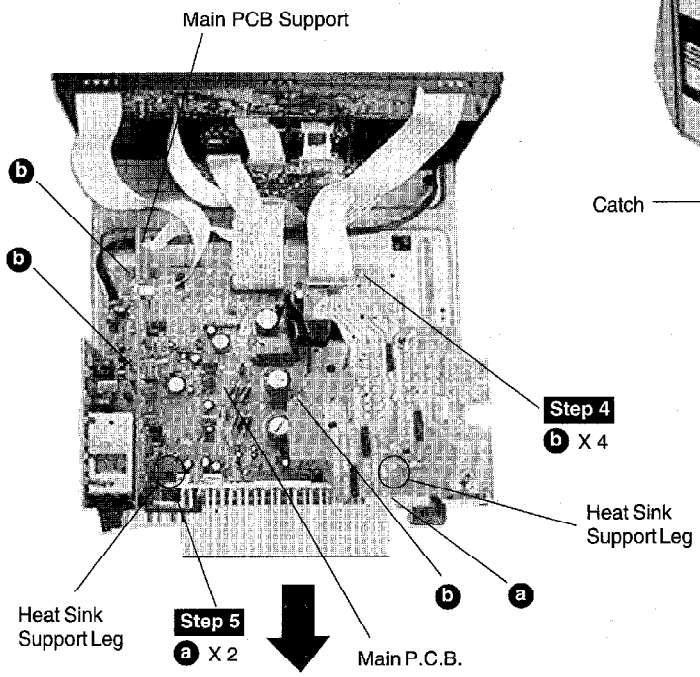
b [XTBS3+8JFZ1] (Black)

2. Checking of Main P.C.B.

Step 1 Follow the Checking of Tuner P.C.B., Deck P.C.B., Power P.C.B., Support P.C.B. and Control P.C.B. procedures from Step 1 to 3.

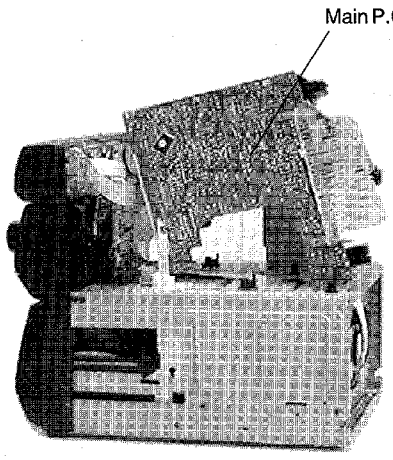
Step 3 Release the two catches and remove the rear panel.





Step 6

Slide the Main P.C.B. backwards and remove it.
(Take note of the Main PCB Support and the two Heat Sink Support Legs)

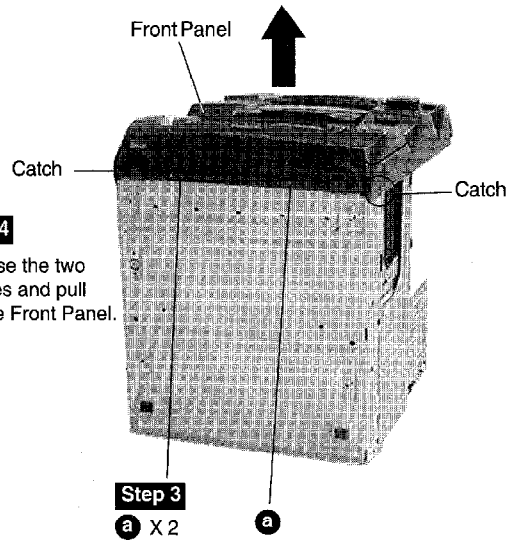


Step 7 Position and check the Main P.C.B. as shown on the right.

a [XTBS3+8JFZ1] (Black)

b [XTB3+20J] (Black)

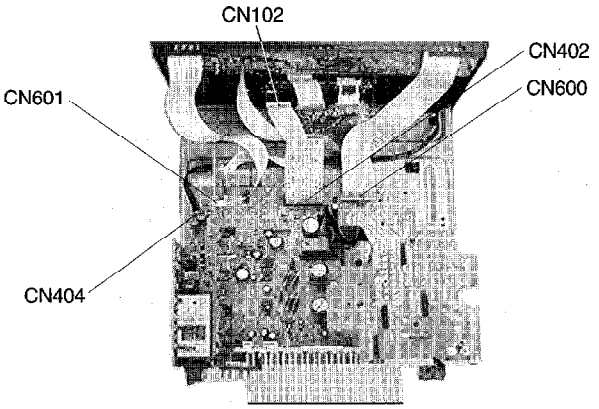
3. Checking of Servo P.C.B.



Step 4

Release the two catches and pull out the Front Panel.

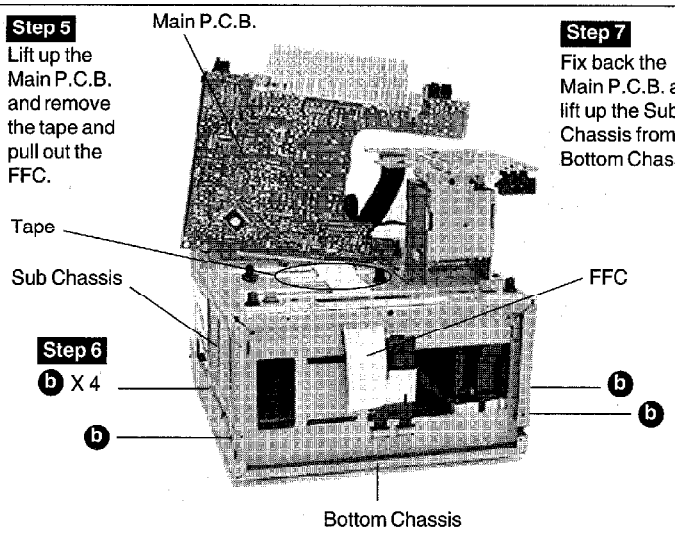
Step 1 Follow the Checking of Main P.C.B. procedures from Step 1 to 5.



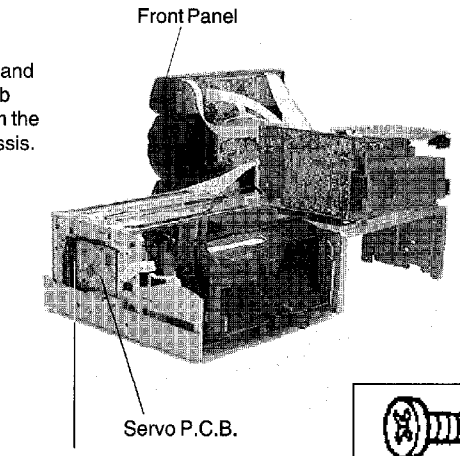
Step 2 Disconnect the connections from CN600, CN402, CN102,CN601 and CN404.

a [XTBS3+8JFZ1] (Black)

Step 5 Lift up the Main P.C.B. and remove the tape and pull out the FFC.



Step 7 Fix back the Main P.C.B. and lift up the Sub Chassis from the Bottom Chassis.



Step 8 Fix back the Front Panel and connect back the connections for CN600, CN402, CN102, CN601, CN404. Push the Loading Unit to the extreme left (as shown on the left) and check the Servo P.C.B.

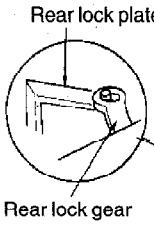
[XTB3+10JFZ]
(Black)

■ Disassembly of the Loading Unit, Operational Parts and Traverse Unit.

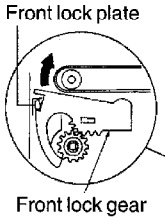
1. Disassembly of the Loading Unit

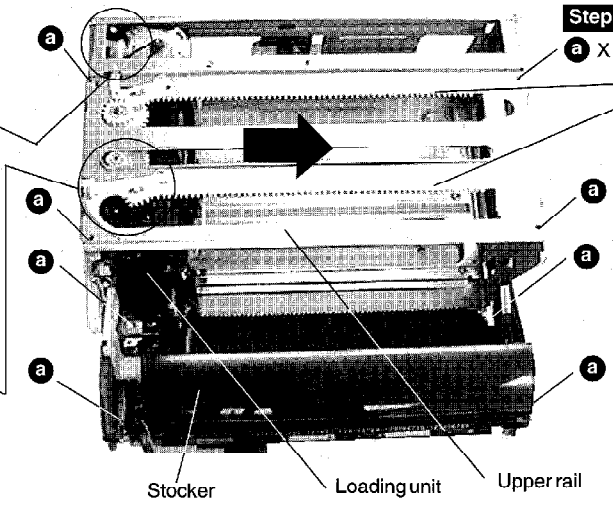
Step 1 Follow the Checking of Servo P.C.B. procedures from Step 1 to 8.

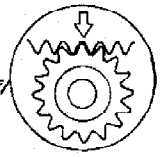
Take note of the rear lock plate and the rear lock gear during disassembly and assembly.



Step 3 Unlock the loading unit by moving the front lock gear manually in the direction of arrow

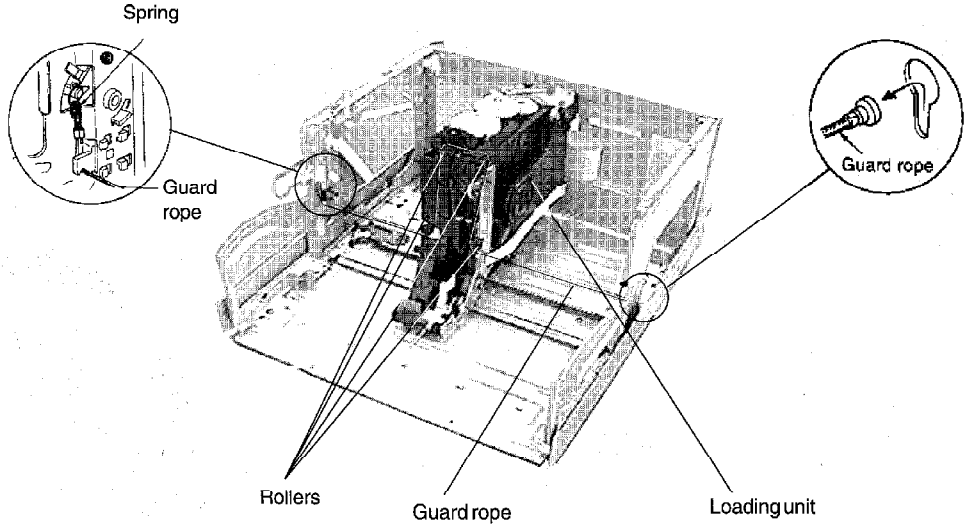






Step 4 Move the loading unit manually in the right direction. (Move the loading unit beyond the center of the frame.)
The pointers on the frame (shown above) are for checking purposes during assembly.

Step 5 Remove the upper rail and the stocker.



Step 6 Remove the guard rope.

Step 7 Remove the Loading unit.

[XTB3+6F]
(Brass)

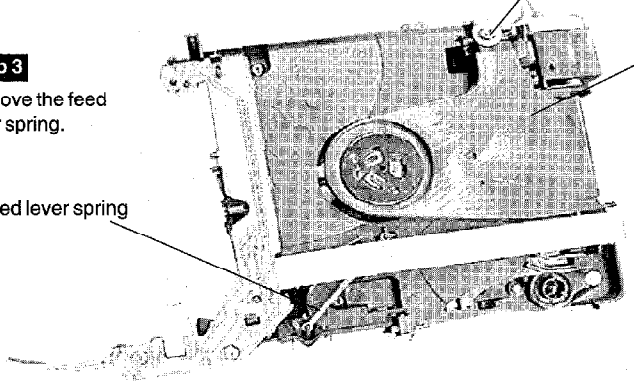
2. Disassembly of the Disc Guide (L), Return Lever A, Rear Feed Lever, Guide Lever, Feed Sub Lever and Front Feed Lever.

Step 1 Follow the Disassembly of the Loading Unit procedures from Step 1 to 7.

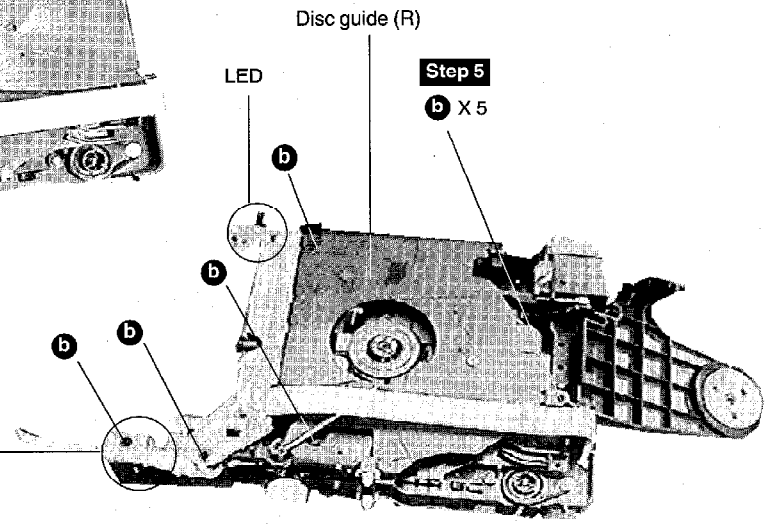
Step 2 ⓐ X 1

Step 3 Remove the feed lever spring.

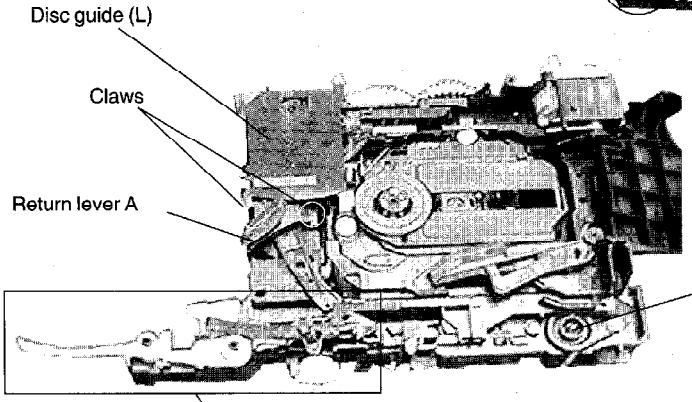
Step 4 Tilt the clamp plate backward.



Step 5 ⓑ X 5



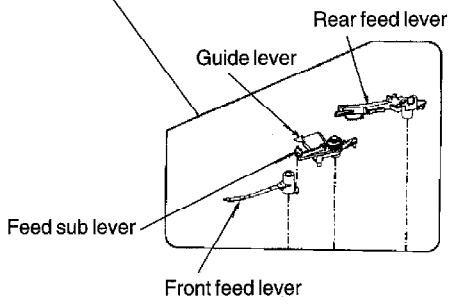
Step 6 Remove the disc guide (R). (Do not touch the LED or the photo coupler by hand.)

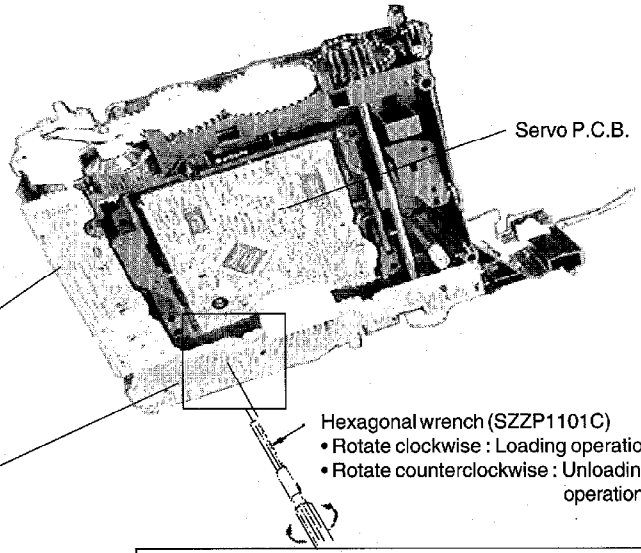


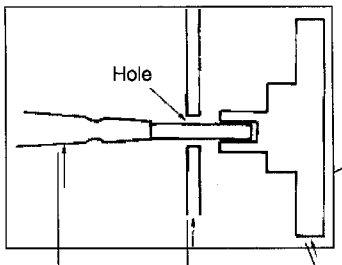
Step 7 Rotate the pulley (or rotate with 2mm hexagonal wrench, SZZP1101C, as shown below) clockwise in order to shift the return lever A away from the disc guide (L).

Step 8 Release the 2 claws and then remove the disc guide (L).
Note : Some of the operational parts can be removed easily (eg. return lever A, rear feed lever, guide lever, feed sub lever and front feed lever).

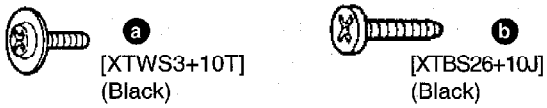
Pulley
- Rotate clockwise : Loading operation
- Rotate counterclockwise : Unloading operation







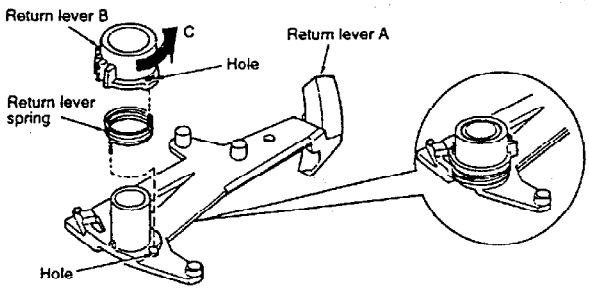
Hexagonal wrench (SZZP1101C)
- Rotate clockwise : Loading operation
- Rotate counterclockwise : Unloading operation



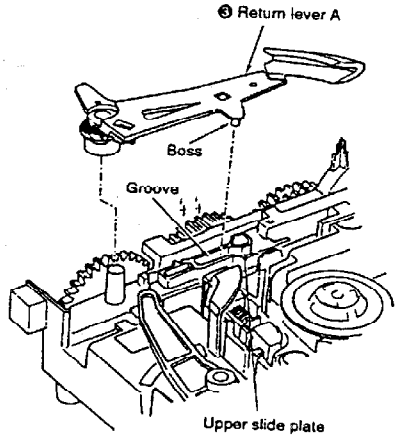
Reassembly

❶ Rotate the pulley clockwise fully.

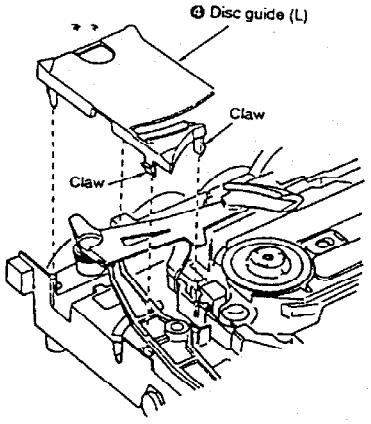
❷ Align the both ends of the spring with the holes of return lever A and B and then, install the return lelver A with rotating the return lever B in the direction of arrow (➡) C.



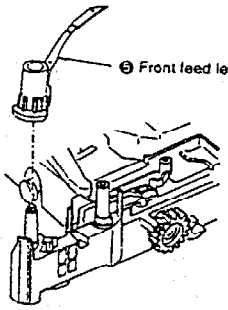
❸ Install the return lever A.
(Align the boss of return lever A with the groove of upper slide plate.)



❹ Install the disc guide(L).
(Press the disc guide (L) untill the claws are hooked completely.)

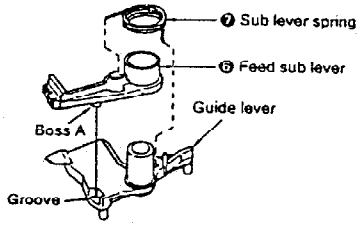


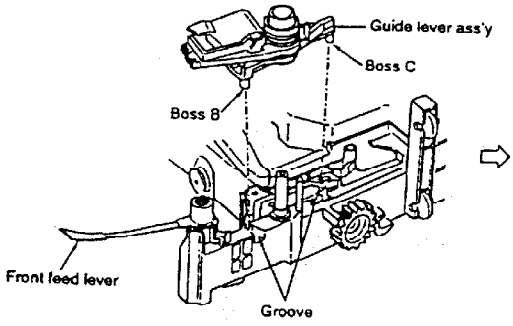
❺ Install the front feed lever.
(The state of pulley rotated clockwise fully.)

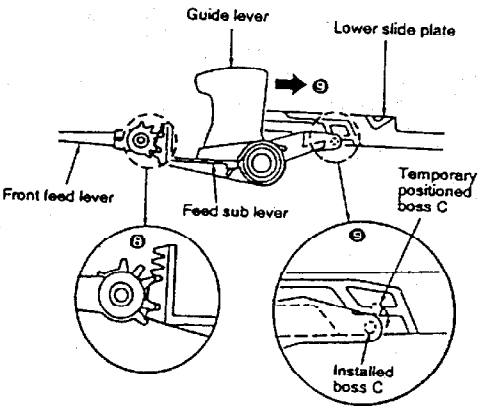


❻ Install the feed sub laver to the guide lever.
• Align the boss A of feed sub lever with the groove of the guide lever.

❼ Install the sub lever spring.

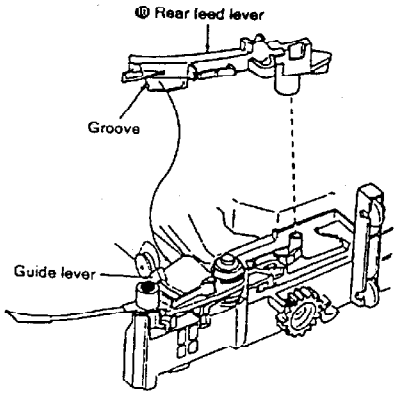






❽ Engage the gear of guide lever ass'y with the gear of front feed lever temporary.
• Boss B must be placed in the groove.
• Boss C must be run over the lower side plate.

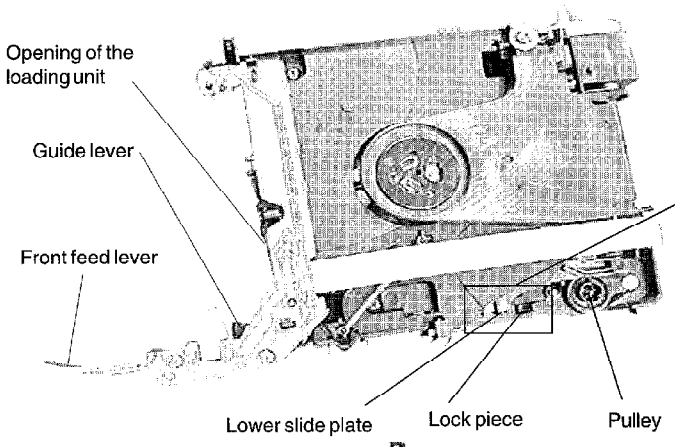
❾ With fixing the gear by finger not to slip off the gear clench, rotate the guide lever in the direction of arrow.
• The boss C will fit in the groove.



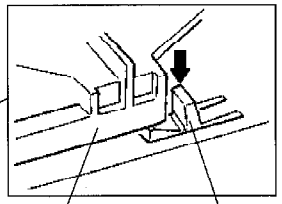
❿ Install the rear feed lever.
(Align the guide lever with the groove of rear feed lever.)

3. Disassembly of the Traverse Unit

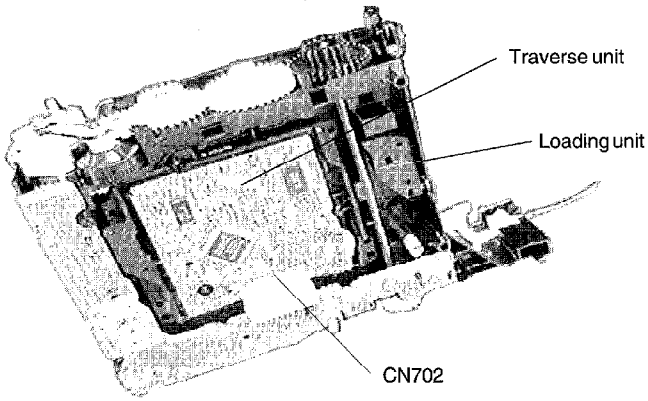
Step 1 Follow the Disassembly of the Loading Unit procedures from Step 1 to 7.



Step 2 Rotate the pulley counterclockwise until the lower slide plate touches the lock piece.



Step 3 Rotate the pulley counterclockwise fully with pressing the rib of lock piece. (The lower side plate runs over the lock piece.)



Step 4 Slide the lower slide plate manually until the lower slide plate touches the rib of lock piece.

Step 5 Remove the traverse unit from the loading unit.

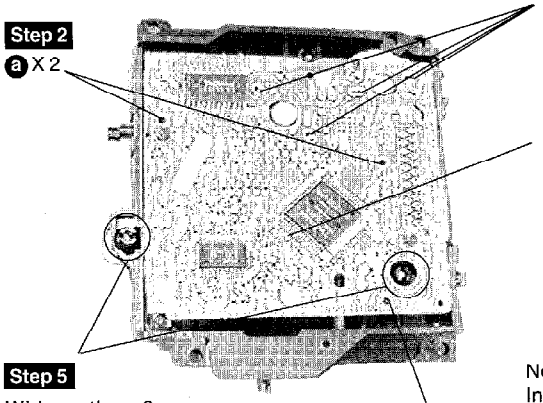
Step 6 Remove the FFC from the connector, CN702.

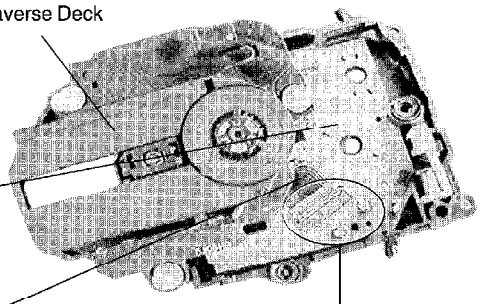
Reassembly

Reverse the steps above. But during Step 3, push the guide lever towards the opening of the loading unit while rotating the pulley clockwise.

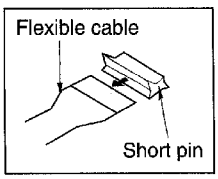
■ Replacement of the Traverse Deck

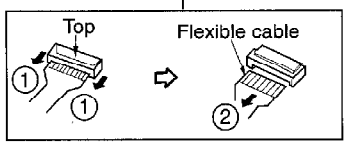
Step 1 Follow the Disassembly of the Traverse Unit procedures from Step 1 to 6.


Step 2
ⓐ X 2
Step 4
Desolder the 4 legs of the 2 motors and pull out the Servo P.C.B.
Servo P.C.B.
Step 5
Widen the 2 bosses with a flat screwdriver and pull out the 2 pins. Then remove the Traverse Deck.
screw-driver
boss
pin
Step 3
ⓑ X 1



Note :
Insert a short pin into the flexible cable for traverse unit.





• Removal of the flexible cable
Push the top of the connector in the direction of the arrow ①, and then pull out the flexible cable in the direction of the arrow ②.

ⓐ [XTV2+6G] (Brass)

ⓑ [XTN2+6G] (Brass)

■ Measurements and Adjustments

• CASSETTE DECK SECTION

MEASUREMENT CONDITION :

- Make sure heads are clean
- Make sure capstan and pressure roller are clean

MEASURING INSTRUMENT :

- EVM(electronic Voltmeter)
- Digital frequency counter

TEST TAPE:

- Head azimuth adjustment (8 kHz, –20 dB): QZZCFM
- Tape speed adjustment (3 kHz, –10 dB): QZZCWAT
- Normal reference blank tape: QZZCRA

HEAD AZIMUTH ADJUSTMENT

Caution :

- Please replace both azimuth adjustment screws (RHE5152ZB) and springs (RMB0331) simultaneously when readjusting the head azimuth. (shown in Fig. 2) Even if you wish to readjust the head azimuth without replacing the screws and springs, a fine adjustment cannot be done because of the screw-locking bond adhered to the azimuth screw and spring.
- Please remove the screw-locking bond left on the head base when replacing the azimuth screw.
- If you wish to readjust the head azimuth, be sure to adjust with adhering the cassette tape closely to the mechanism by pushing the center of cassette tape with your finger. (shown in Fig. 3)

1. Playback the azimuth adjustment portion (8 kHz, –20 dB) of the test tape (QZZCFM) in the forward play mode. Vary the azimuth adjusting screw until the output of the R-CH (PB OUT-R) are maximized.
2. Perform the same adjustment in the reverse play mode.
3. After the adjustment, apply screwlock to the azimuth adjusting screw.

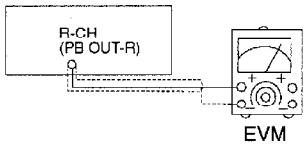


Fig. 1

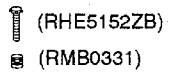


Fig.2

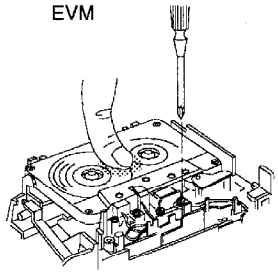


Fig. 3

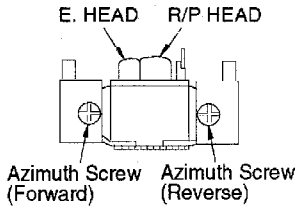
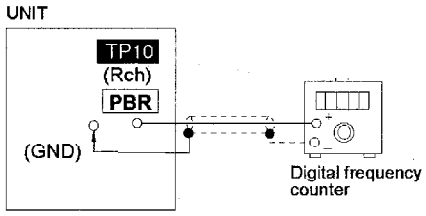


Fig. 4

TAPE SPEED ADJUSTMENT

1. Test equipment connection is shown on the right.
2. Set the unit to "**TAPE**" position.
3. Playback the middle part of the test tape (QZZCWAT).
4. Adjust **MOTOR VR** so that the output is within the standard value.

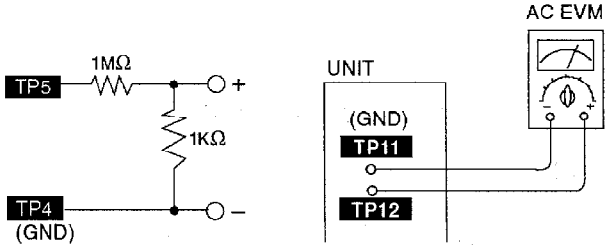
Standard value : 3000 ± 60 Hz



BIAS AND ERASE VOLTAGE CHECK

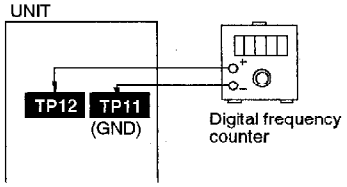
1. Test equipment connection is shown on the right.
2. Insert the normal tape (QZZCRA).
3. Place cassette deck into **REC** mode.
4. Make sure that the output is within the standard value.

Bias Voltage Standard value : 19 ± 4 mV
Erase Voltage Standard value : more than 65 mV



BIAS FREQUENCY ADJUSTMENT

1. Test equipment connection is shown on the right.
2. Set the unit to "**TAPE**" position.
3. Place cassette deck into **REC** mode.
4. Adjust **L101** for **98 ± 8 kHz** on frequency counter reading.

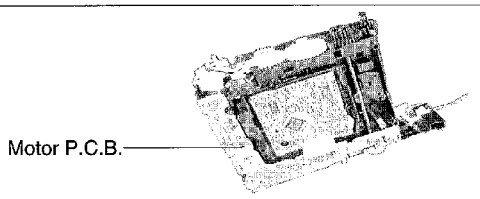


• CD LOADING MECHANISM SECTION

WARNING : This product uses a laser diode. Refer to caution statements on page 3.

• DISC SENSOR ADJUSTMENT

1. Set the unit to **"CD TEST MODE"** as shown below.
2. Connect the DC electronic voltmeter across **TP501** (+) and **TP502** (–) on the motor P.C.B. (Fig. 6).
3. Adjust VR501 so that the DC electronic voltmeter reads **2.8 ± 0.1V.**
4. Check the play operation after adjustment.



• Alignment points

<Cassette deck section>

<CD Loading Mechanism Section>

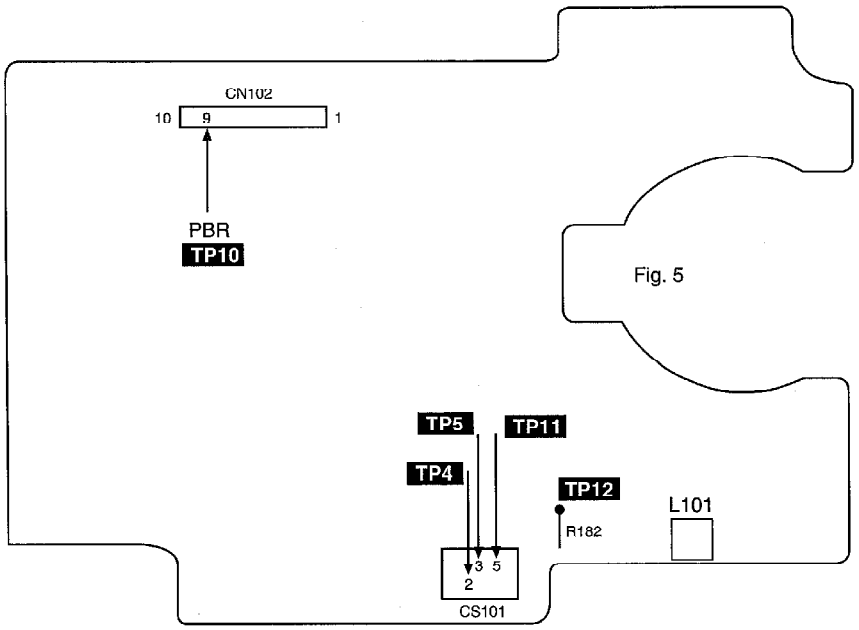


Fig. 5

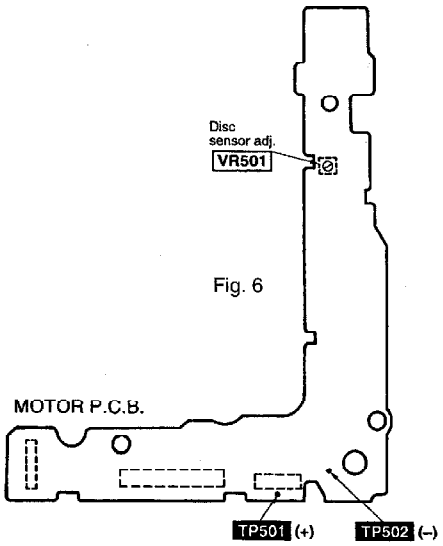


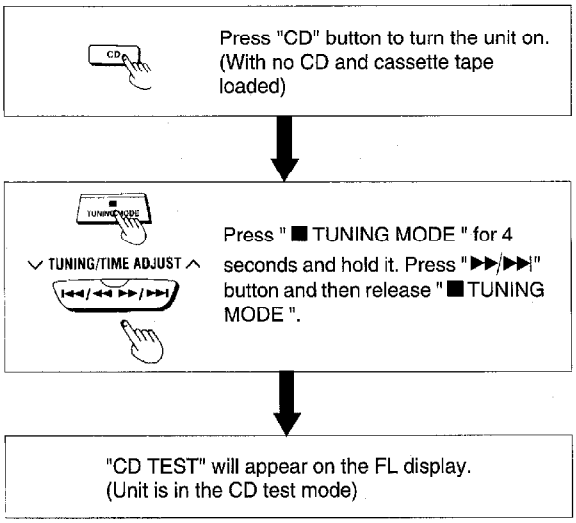
Fig. 6

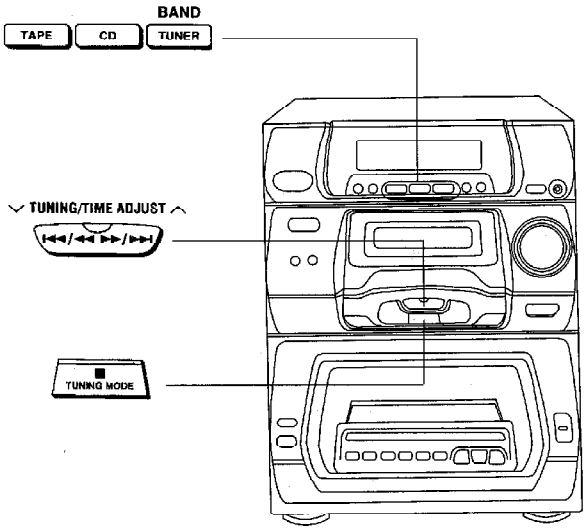
■ CD Test Mode

This unit contents some functions which check operations by internal micro-processor program. Use these functions when performing repair or maintenance on the unit. These function include :

1. CD automatically-adjusted result display.
2. Servo module test mode. (CD can be play without changer mechanism)
3. Changer mechanism test mode. (Changer can be operated without servo module)
4. Changer continuous play test.

■ HOW TO ENTER CD TEST MODE


CD
Press "CD" button to turn the unit on. (With no CD and cassette tape loaded)
TUNING MODE
TUNING/TIME ADJUST
Press " ■ TUNING MODE " for 4 seconds and hold it. Press "▶▶/▶▶|" button and then release " ■ TUNING MODE ".
"CD TEST" will appear on the FL display. (Unit is in the CD test mode)



■ CD AUTOMATICALLY-ADJUSTED RESULT DISPLAY MODE

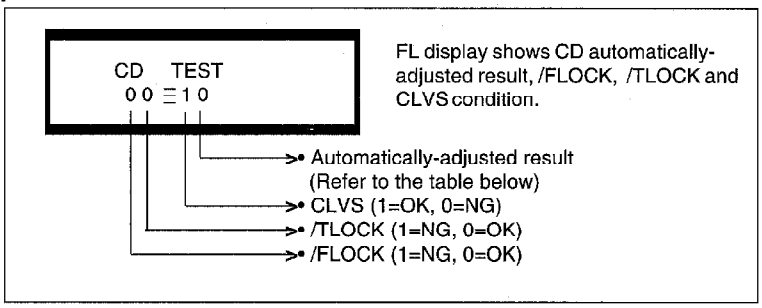
* This function provides indication of error codes as the result of automatically-adjustment of CD (tracking, focus, offset, etc.). Based on these error codes, the faulty areas can be located.

• How to set the CD automatically-adjusted result display mode

CD test mode

↓

[A] Press Group File "A" key. →


CD TEST
00 =10
FL display shows CD automatically-adjusted result, /FLOCK, /TLOCK and CLVS condition.
Automatically-adjusted result (Refer to the table below)
CLVS (1=OK, 0=NG)
/TLOCK (1=NG, 0=OK)
/FLOCK (1=NG, 0=OK)

• Error code explanation

Error Code	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Focus Offset	0	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tracking Offset	0	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Focus Gain (Rough)	0	X	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tracking Gain (Rough)	0	–	0	X	0	X	0	X	0	X	0	X	0	X	0	X
Tracking Balance	0	–	X	X	0	0	X	X	0	0	X	X	0	0	X	X
Focus Gain (Fine)	0	–	0	0	X	X	X	X	0	0	0	0	X	X	X	X
Tracking Gain (Fine)	0	–	0	0	0	0	0	0	X	X	X	X	X	X	X	X

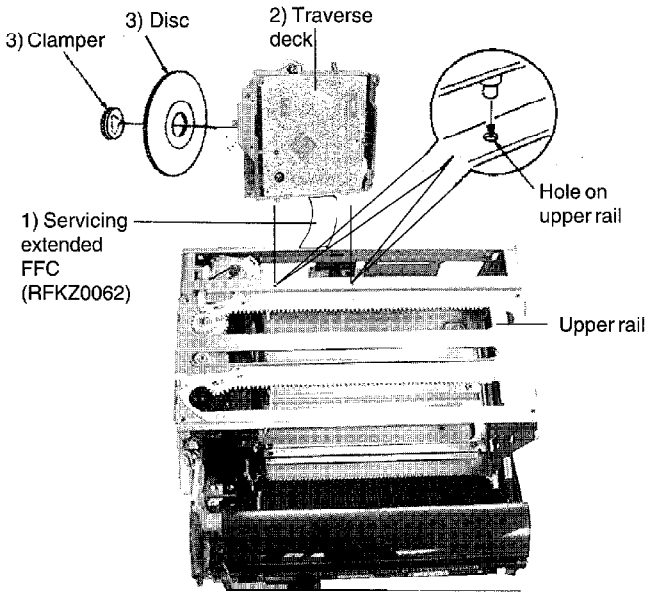
0 = OK (Satisfactory)
X = NG (Faulty)

* Before testing, make sure that the test disc is free from scratches, dirt and the optical pick up len is clean.

• How to go out from CD automatically-adjusted result display mode
Press the "POWER" button.

■ SERVO MODULE TEST MODE

* This function provides operation test for CD traverse unit (by itself). You can use this test for traverse unit operation checking and troubleshooting.



• Prepare for set up.

* Remove the traverse deck and set up as shown on the left.
1) Connect the servicing extension FFC between the traverse deck and the loading unit.
2) Position the traverse deck on top of the holes of the upper rail.
3) Attach the disc to the clamper with magnet.

• How to enter the servo module test mode

CD test mode

↓

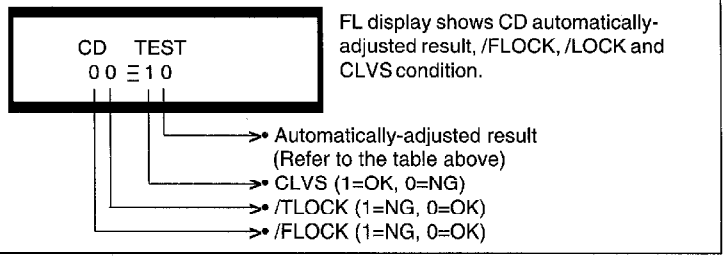
[B] Press Group File "B" key.

↓

[FM MODE/BP] Press "▶ FM/BP" button.
(The unit accepts "▶ FM/BP", "II ◀ MEMORY/SET", "▶▶/▶▶|" and "|◀◀\◀◀" buttons only.)

→

(Each time the CD is played by "▶ FM/BP" button, the unit reads TOC and indicates automatically-adjusted result.)

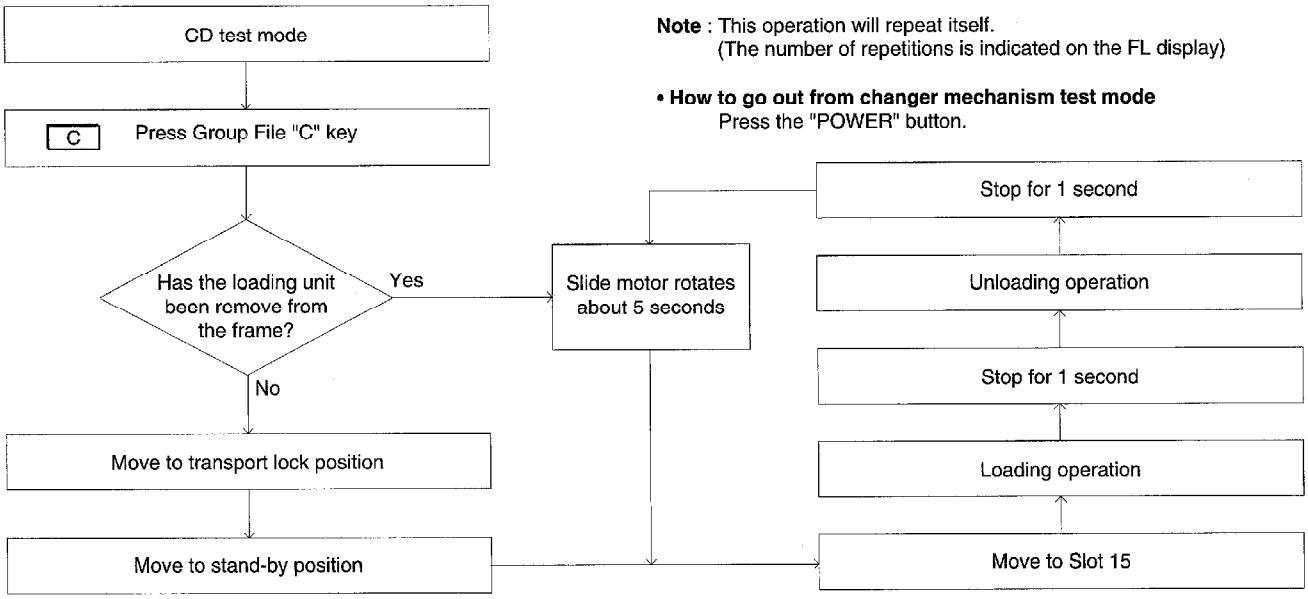

CD TEST
00 =10
FL display shows CD automatically-adjusted result, /FLOCK, /LOCK and CLVS condition.
Automatically-adjusted result (Refer to the table above)
CLVS (1=OK, 0=NG)
/TLOCK (1=NG, 0=OK)
/FLOCK (1=NG, 0=OK)

• How to go out from servo module test mode
Press the "POWER" button.

■ CHANGER MECHANISM TEST MODE

*This function provides operation test for changer mechanism individually. You can use this test mode for changer mechanism troubleshooting without CD traverse unit. (It can also be checked with traverse unit)

• How to enter the changer mechanism test mode. (Load disc at Disc No.15)



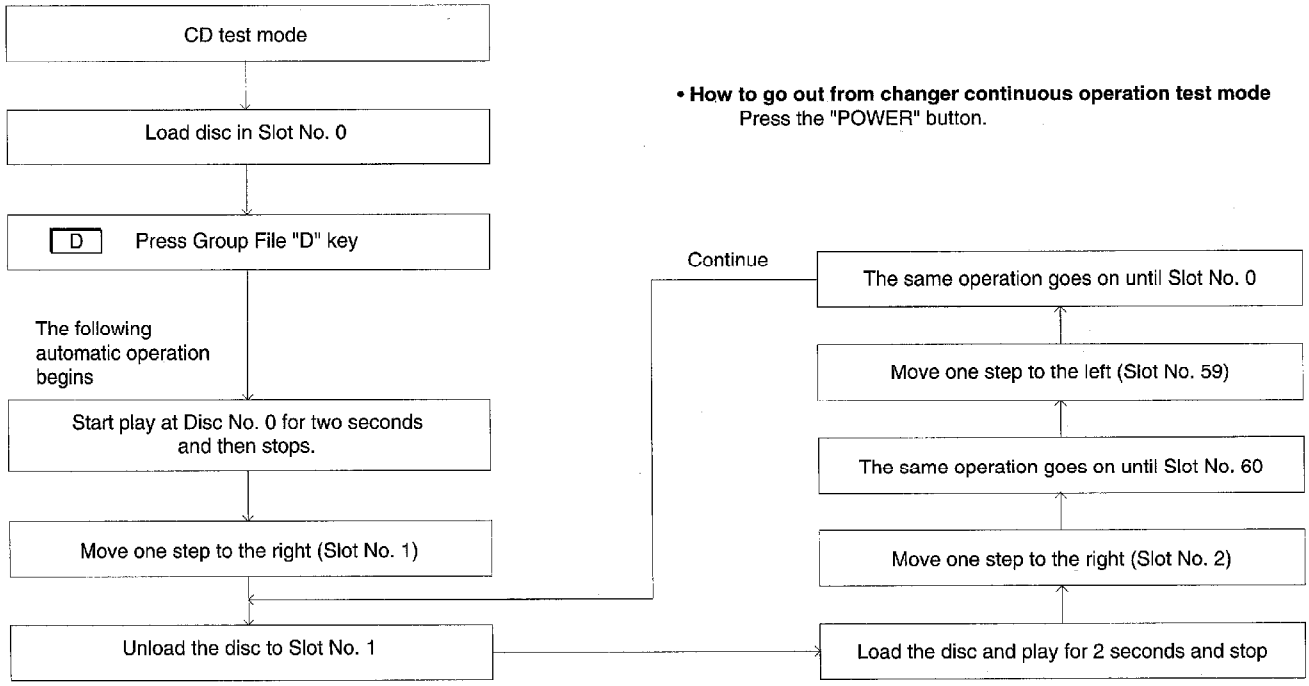
Note : This operation will repeat itself.
(The number of repetitions is indicated on the FL display)

• How to go out from changer mechanism test mode
Press the "POWER" button.

■ CHANGER CONTINUOUS OPERATION TEST MODE

*This function provides the continuous play operation for checking changer mechanism. You can use this function to find out the intermittent problem or operation check after repair.

• How to enter the changer continuous operation mode


CD test mode
Load disc in Slot No. 0
D
Press Group File "D" key
The following automatic operation begins
Start play at Disc No. 0 for two seconds and then stops.
Move one step to the right (Slot No. 1)
Unload the disc to Slot No. 1
Continue
The same operation goes on until Slot No. 0
Move one step to the left (Slot No. 59)
The same operation goes on until Slot No. 60
Move one step to the right (Slot No. 2)
Load the disc and play for 2 seconds and stop

• How to go out from changer continuous operation test mode
Press the "POWER" button.

■ Self-Diagnostic Display Function

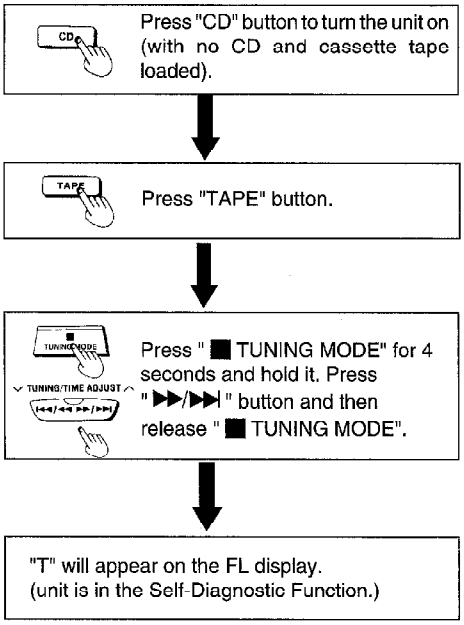
■ **Self-diagnostic display**

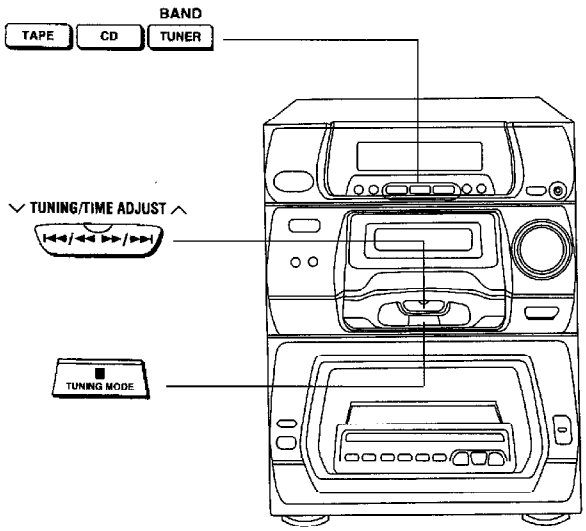
This unit is equipped with a self-diagnosis display function which, if a problem occurs at cassette mechanism and CD mega changer, will display an error code corresponding to the problem. Use this function when performing maintenance on the unit.

■ **Preparation**

* Normal blank tape with recording prevention tab on one side.
* Normal pre-recorded tape with data on both sides and recording prevention tabs intact.
* Normal pre-recorded tape with recording prevention tabs on both sides.

■ **How to enter the Self-Diagnostic Function mode.**


CD
Press "CD" button to turn the unit on (with no CD and cassette tape loaded).
TAPE
Press "TAPE" button.
TUNING MODE
TUNING/TIME ADJUST
Press " ■ TUNING MODE" for 4 seconds and hold it. Press " ▶▶/▶▶| " button and then release " ■ TUNING MODE".
"T" will appear on the FL display.
(unit is in the Self-Diagnostic Function.)



■ **Cassette Mechanism Test**

1. Load the normal blank tape. (Recording prevention tab at the right hand side)
2. Press the " ▶▶/▶▶| " button. (Tape will fast forward for about 2 seconds and stop automatically)
3. Load the normal blank tape. (Recording prevention tab at the left hand side)
4. Press the " |◀◀\◀◀ " button. (Tape will fast forward for about 2 seconds and stop automatically)
5. Load the normal pre-recorded tape. (Recording prevention tab on both sides.)
6. Press " ▶ FM/BP" button. (TPS function starts and will stop automatically.)
7. Load the normal blank tape. (Recording prevention tab on both sides)
8. Press "REC START/STOP" button.

■ **CD / CD Mega Changer Test**

1. Press " ∧ DISC SKIP / GROUP NAME" button.
   * CD Mega Changer will operate the following functions automatically for test an error detection:
     a) Mechanism moves to the transportation position.
     b) Mechanism moves to the initial position. (Stop for 1 second)
     c) Mechanism moves to Disc Number 15.
     d) Disc loading operation. (Stop for 1 second)
     e) Disc unloading operation.
     f) Mechanism moves back to the initial position.

■ **To Display Self-Diagnostic Result**

1. Press " ■ TUNING MODE" button.
   * If several problems exist, error code will change each time you press " ■ TUNING MODE" button is pressed. (e.g. H02 ⟶ H03 ⟶ F02 .... etc.)
   * Press "TAPE" button to display error code for the desired cassette deck.
   * If there is no problem, FL will still display "T".

■ To Clear The Error Codes

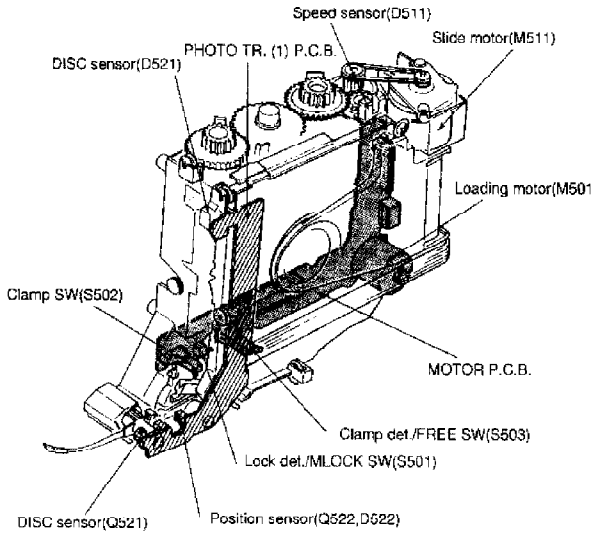
1. Press the " ■ TUNING MODE" button for at least 5 seconds.
2. FL indicator shows "CLEAR" for 1 second and change to "T".

■ How To Get Out From Self-Diagnostic Function

* Press "POWER" button to switch off the unit.

■ Interpretation of error codes

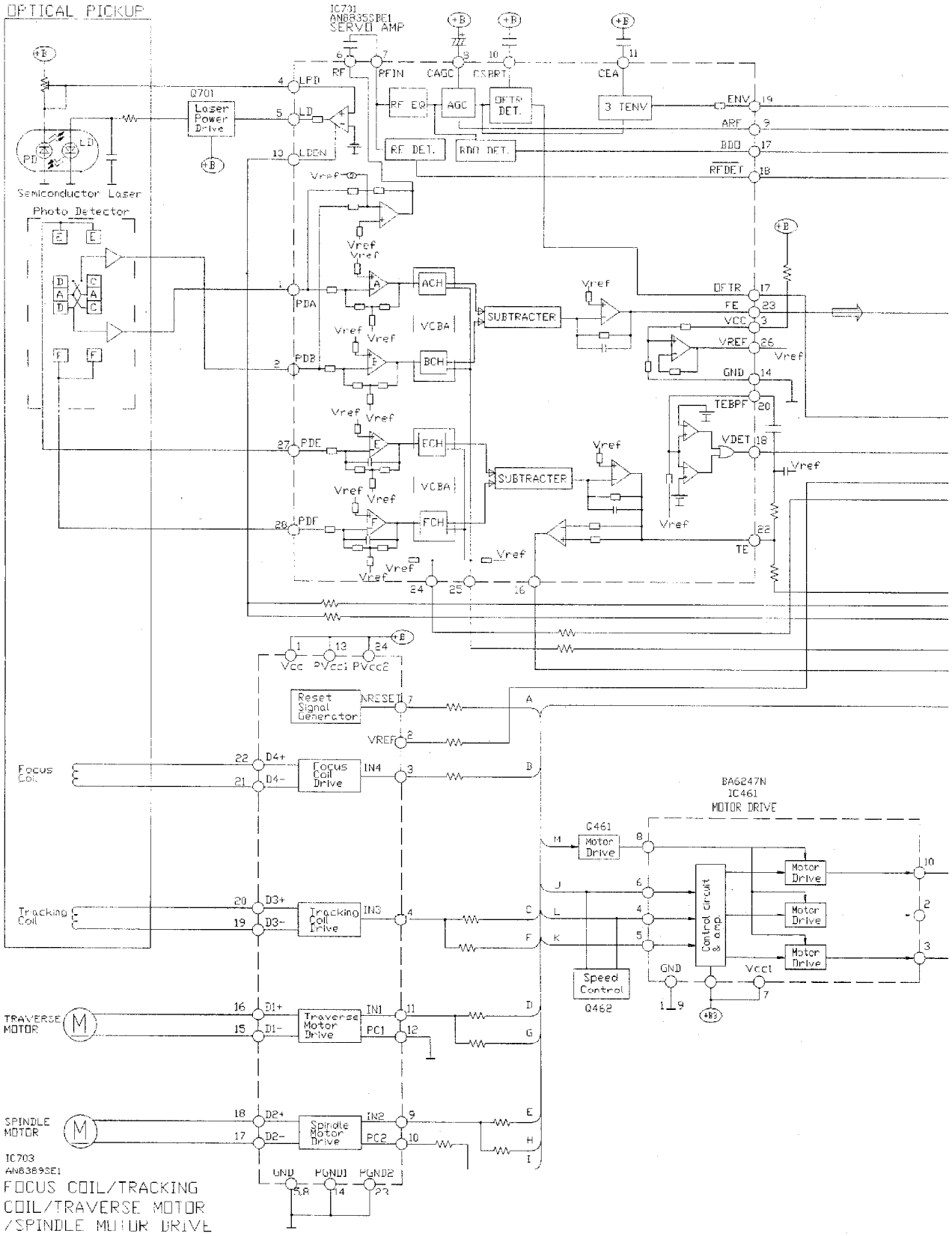
Error code	Problem condition	Correction procedure
H01	Faulty operation of cassette mechanism. Example: Reverse-play operation performs when "▶▶/▶▶|" button is pressed.	Faulty cassette mechanism mode switch [S971] and plunger. (Check and replace)
H02	Recording not possible, or recording mode entered even though erasure prevention tabs have been removed.	Faulty contact or short-circuit of erasure prevention switches [S974, S975]. (Check and replace)
H03	Playback not performed when "▶ FM/BP" button is pressed. Motor turns when "▶ FM/BP" button is pressed even though there is no tape cassette loaded in cassette holder.	Faulty contact or short-circuit of cassette half detect switch. [S972] (Check and replace)
F01	When the "▶ FM/BP" button is pressed, the tape advances slightly and then stops.	Faulty reel pulse, faulty hole detect IC. [IC971] (Check and replace)
F02	Cassette deck will not perform TPS function.	Faulty playback EQ/recording amplifier IC. [IC101] (Check and replace)
F15	The symptom is slow start-up of the CD when power is turned ON. The cause is defective contact of the OPU rest switch.	Abnormal rest detection switch (S701).
F26 (Automatic display)	Symptom is that the unit does not operate when the "▶ FM/BP" button is pressed, or the CD is skipping etc. The probable cause is defective system control IC. Lock det./MLOCK SW (S501) does not go ON/OFF in initial operation.	• Check system control (IC401) and servo IC (IC702). • Check each IC and servo circuit. • Check Lock det./MLOCK SW (S501).
F27	Sensor abnormal. Load on slide drive system is too great. Loading unit does not move to the right or left. Slide motor malfunction.	• Check slide motor (M511). • Check position sensor (Q522, D522) and speed sensor (D511). • Check gears of slide drive system. (Jammed by foreign matter or great teeth missing.)
F28	Clamp det./FREE SW does not go OFF, and Clamp det. SW (S502) does not go ON within 5 seconds during loading.	• Check Clamp det./FREE SW (S503) and Clamp SW (S502). • Check loading motor (M501). • Check loading drive system. (Riding-up, shifting or foreign matter jamming of levers, missing gear teeth etc.)
F29	Clamp det./FREE SW (S503) and clamp SW does not go ON within 5 seconds during unloading.	
F61	When power is switched on it automatically switches immediately back off, and cannot be switched on. (DCDET become L during normal operation.)	• Faulty power detector (Q512). (Check and replace) • Power supply circuit

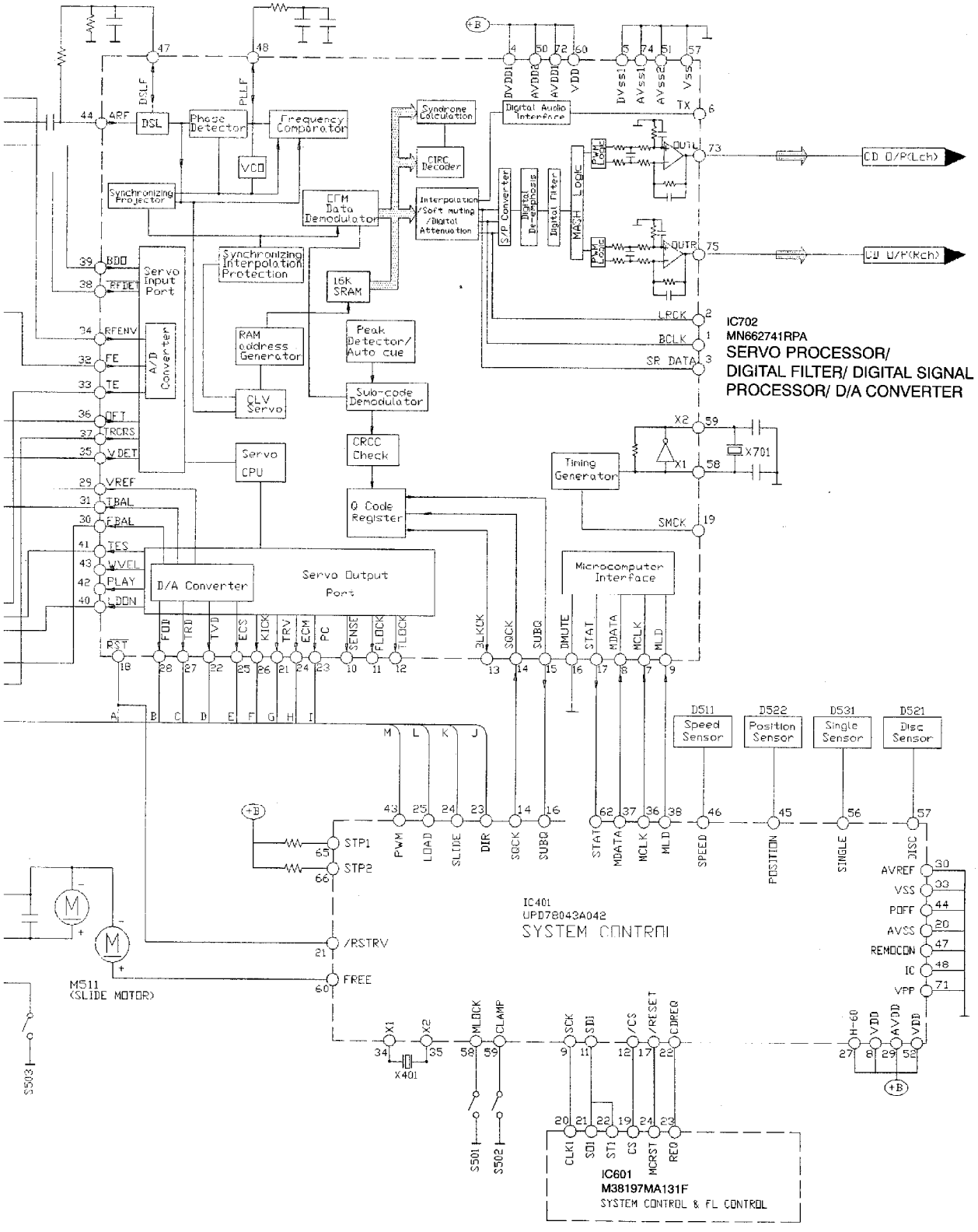


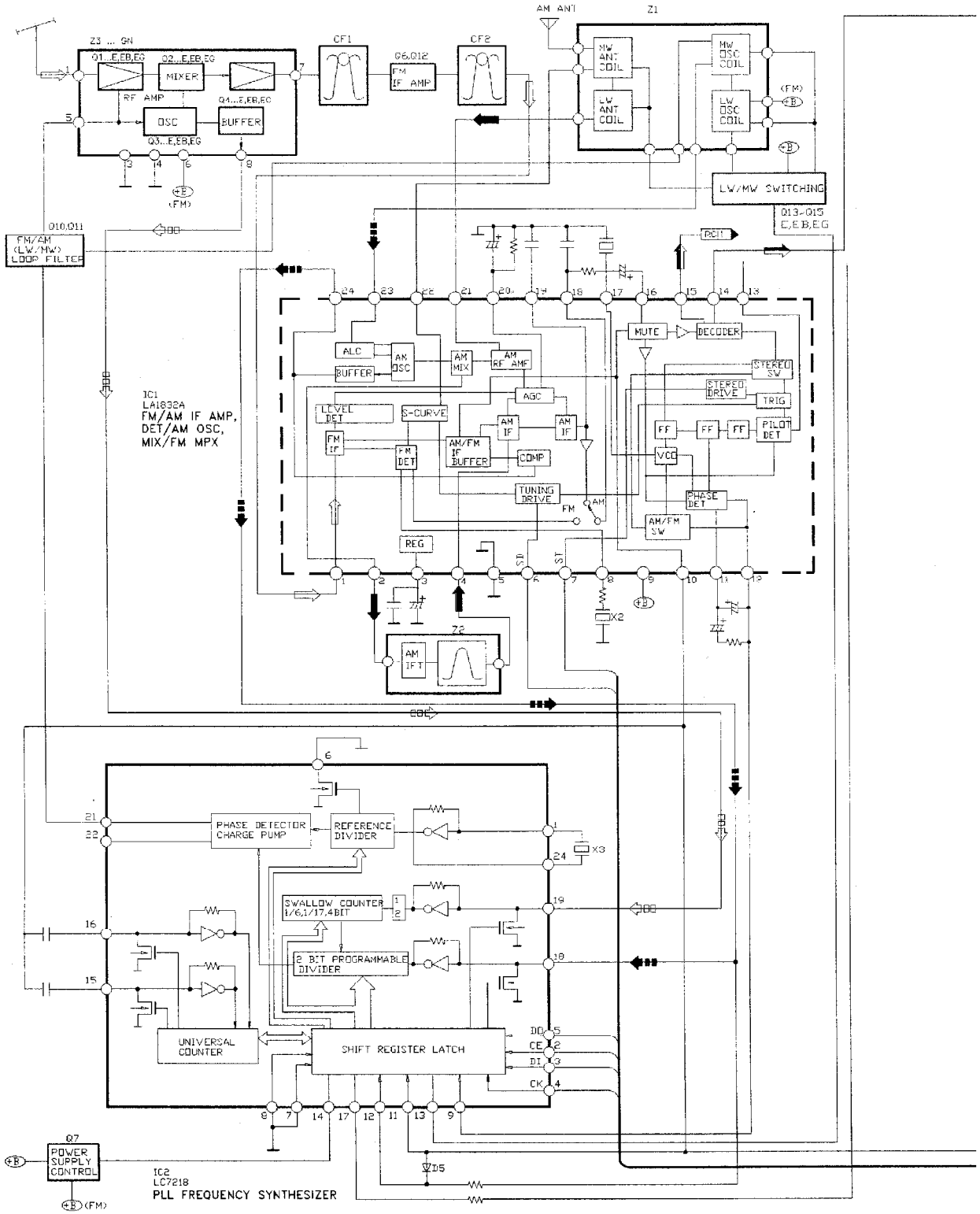
Ref. No.	Part name (Part No.)
IC401	System control IC (UPD78043A042)
IC702	Servo processor IC (MN662741RPA)
S501	Lock det./MLOCK SW (RSP1A017-A)
S502	Clamp det. SW (RSH1A005)
S503	Clamp det./FREE SW (RSH1A005)
S701	Rest detection SW (RSM0006-P)
Q521	Disc sensor (PT4810F)

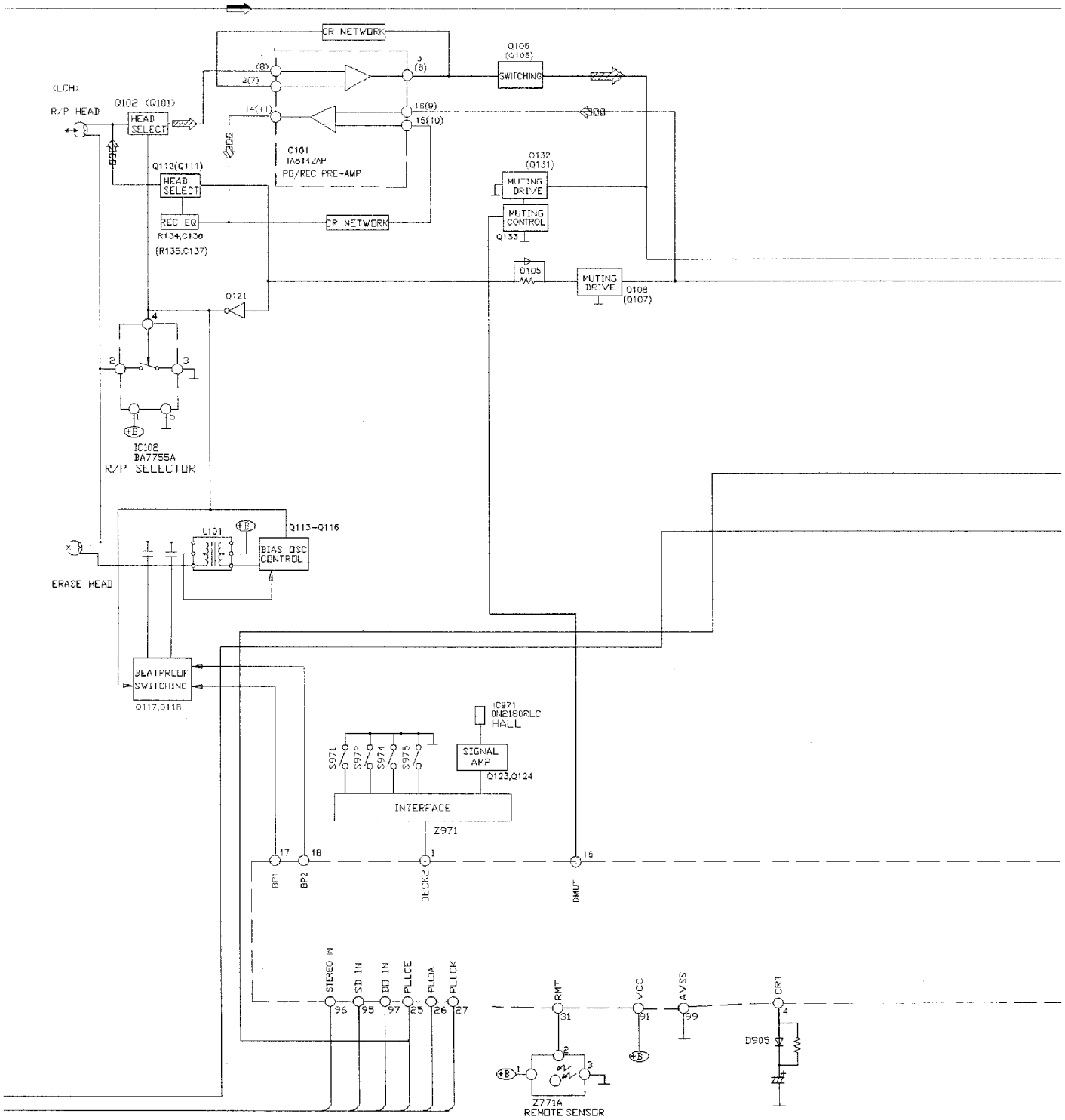
Ref. No.	Part name (Part No.)
Q522	Position sensor (PT480F)
D511	Speed sensor (RSQGP1S53V)
D521	Disc sensor (LN66S)
D522	Position sensor (GL480V)
M501	Loading motor (RFKPLMC50PAK)
M511	Slide motor (RFKPLMC50PBK)

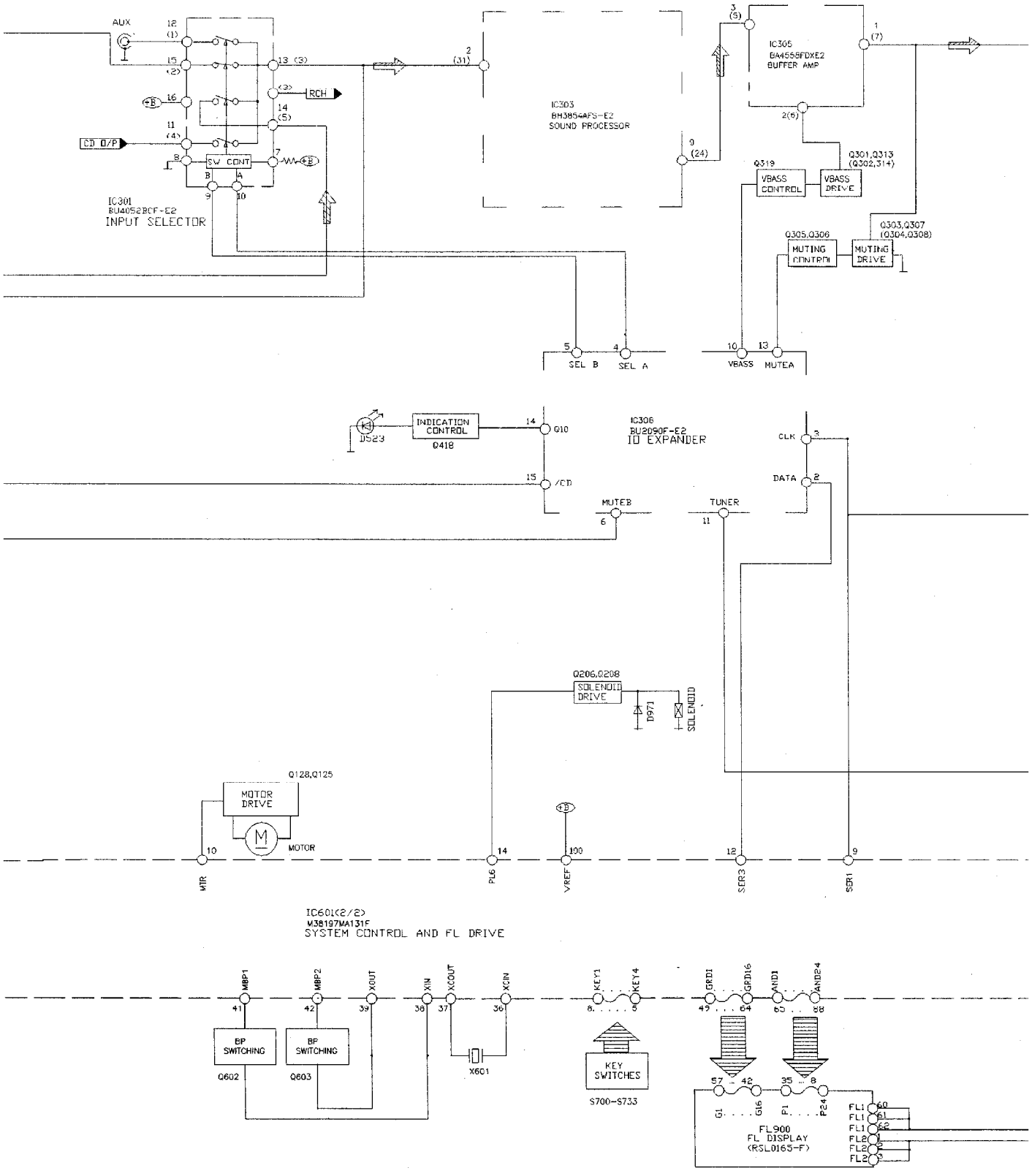
■ Block Diagram

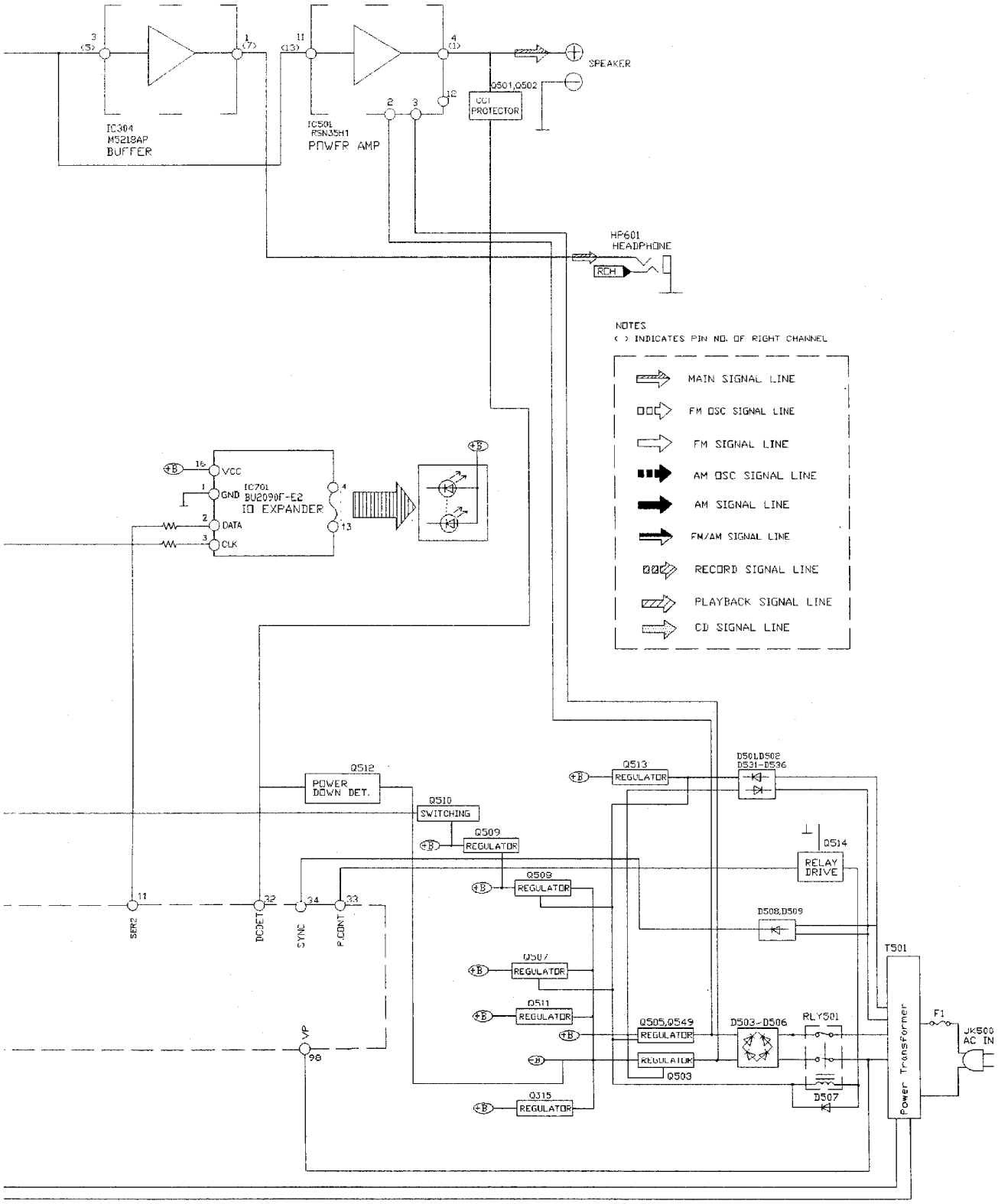



IC702
MN662741RPA
SERVO PROCESSOR/
DIGITAL FILTER/ DIGITAL SIGNAL
PROCESSOR/ D/A CONVERTER
IC401
UPD78043A042
SYSTEM CONTROL
IC601
M38197MA131F
SYSTEM CONTROL & FL CONTROL
Phase Detector
Frequency Comparator
VCO
Synchronizing Projector
EFM Data Demodulator
Synchronizing Interpolation Protection
16K SRAM
Servo Input Port
A/D Converter
RAM address Generator
CLV Servo
Servo CPU
Peak Detector/ Auto cue
Sub-code Demodulator
CRCC Check
Q Code Register
Syndrome Calculation
CIRC Decoder
Interpolation /Soft muting /Digital Attenuation
S/P Converter
Digital De-emphasis
Digital Filter
MASH Logic
Digital Audio Interface
Timing Generator
Servo Output Port
D/A Converter
Microcomputer Interface
CD O/P(Lch)
CD O/P(Rch)
M511
(SLIDE MOTOR)
D511 Speed Sensor
D522 Position Sensor
D531 Single Sensor
D521 Disc Sensor


AM ANT
Z1
Z3 ... GN
Q1...E,EB,EG
Q2...E,EB,EG
MIXER
RF AMP
Q4...E,EB,EG
OSC
BUFFER
Q3...E,EB,EG
CF1
CF2
Q6,Q12
FM IF AMP
MW ANT COIL
LW ANT COIL
MW OSC COIL
LW OSC COIL
(FM)
+B
LW/MW SWITCHING
Q13-Q15
E,EB,EG
Q10,Q11
FM/AM (LW/MW) LOOP FILTER
IC1
LA1832A
FM/AM IF AMP, DET/AM OSC, MIX/FM MPX
ALC
BUFFER
AM OSC
AM MIX
AM RF AMP
AGC
LEVEL DET
S-CURVE
AM IF
FM IF
FM DET
AM/FM IF BUFFER
COMP
TUNING DRIVE
FM
AM
REG
MUTE
DECODER
STEREO SW
STEREO DRIVE
TRIG
FF
PILOT DET
VCO
PHASE DET
AM/FM SW
STD
ST
X2
Z2
AM IFT
PHASE DETECTOR CHARGE PUMP
REFERENCE DIVIDER
X3
SWALLOW COUNTER 1/6,1/7,4BIT
2 BIT PROGRAMMABLE DIVIDER
UNIVERSAL COUNTER
SHIFT REGISTER LATCH
DO
CE
DI
CK
Q7
POWER SUPPLY CONTROL
D5
IC2
LC7218
PLL FREQUENCY SYNTHESIZER

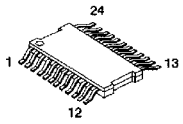

CR NETWORK
Q105
(Q105)
SWITCHING
(LCH)
R/P HEAD
Q102 (Q101)
HEAD SELECT
IC101
TA8142AP
PB/REC PRE-AMP
Q112(Q111)
HEAD SELECT
REC EQ
R134,C136
(R135,C137)
CR NETWORK
Q132
(Q131)
MUTING DRIVE
MUTING CONTROL
Q133
D105
MUTING DRIVE
Q108
(Q107)
Q121
IC102
BA7755A
R/P SELECTOR
L101
Q113~Q116
BIAS OSC CONTROL
ERASE HEAD
BEATPROOF SWITCHING
Q117,Q118
IC971
DN2180RLC
HALL
SIGNAL AMP
Q123,Q124
S971
S972
S974
S975
INTERFACE
Z971
BP1
BP2
DECK2
RMUT
STEREO IN
SD IN
DD IN
PLLCE
PLLDA
PLLCK
RMT
VCC
AVSS
CRT
D905
Z771A
REMOTE SENSOR

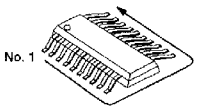

AUX
CD O/P
SW CONT
IC301
BU4052BCF-E2
INPUT SELECTOR
IC303
BH3854AFS-E2
SOUND PROCESSOR
IC305
BA4558FDXE2
BUFFER AMP
Q319
VBASS CONTROL
VBASS DRIVE
Q301,Q313
(Q302,314)
Q305,Q306
MUTING CONTROL
MUTING DRIVE
Q303,Q307
(Q304,Q308)
SEL B
SEL A
VBASS
MUTEA
D523
INDICATION CONTROL
Q418
IC306
BU2090F-E2
IO EXPANDER
/CD
MUTEB
TUNER
CLK
DATA
Q206,Q208
SOLENOID DRIVE
D971
SOLENOID
Q128,Q125
MOTOR DRIVE
MOTOR
MTR
PL6
VREF
SCR3
SCR1
IC601(2/2)
M38197MA131F
SYSTEM CONTROL AND FL DRIVE
MBP1
MBP2
XOUT
XIN
XCOUT
XCIN
BP SWITCHING
Q602
Q603
X601
KEY1
KEY4
KEY SWITCHES
S700-S733
GRID1
GRID16
ANOD1
ANOD24
G1
G16
P1
P24
FL900
FL DISPLAY
(RSL0165-F)


IC304
M5218AP
BUFFER
IC501
RSN35H1
POWER AMP
SPEAKER
Q501,Q502
OCP PROTECTOR
HP601
HEADPHONE
RCH
NOTES
( ) INDICATES PIN NO. OF RIGHT CHANNEL
MAIN SIGNAL LINE
FM OSC SIGNAL LINE
FM SIGNAL LINE
AM OSC SIGNAL LINE
AM SIGNAL LINE
FM/AM SIGNAL LINE
RECORD SIGNAL LINE
PLAYBACK SIGNAL LINE
CD SIGNAL LINE
IC701
BU2090F-E2
IO EXPANDER
VCC
GND
DATA
CLK
Q512
POWER DOWN DET.
Q510
SWITCHING
Q509
REGULATOR
Q508
REGULATOR
Q507
REGULATOR
Q511
REGULATOR
Q505,Q549
REGULATOR
REGULATOR
Q503
Q315
REGULATOR
Q513
REGULATOR
D501,D502
D531-D536
Q514
RELAY DRIVE
D508,D509
D503-D506
RLY501
D507
T501
Power Transformer
F1
JK500
AC IN
SER2
DCDET
SYNC
P.CONT
VP

■ Terminal Guide of ICs, Transistors and Diodes

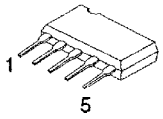
AN8389SE1

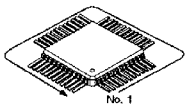




AN8835SBE1(28P)
BU2090F-E2(16P)
BU4052BCF-E2(16P)
LA1832A(24P)
LC7218(24P)
BH3854AFS-E2(32P)

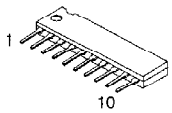
BA7755A





M38197MA131F(100P)
MN662741RPA(80P)
UPD78043A042(80P)

BA6247N



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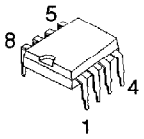
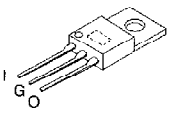
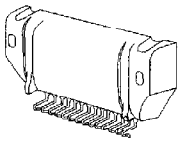


0N2180RLC

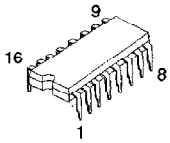
AN78M05



RSN35H1



TA8142AP



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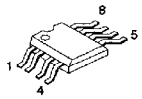

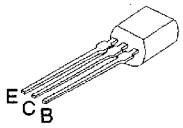

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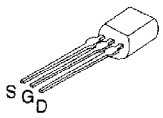

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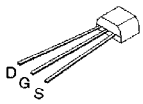

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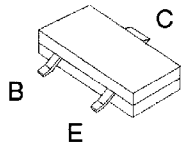

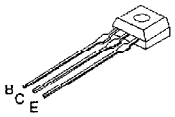

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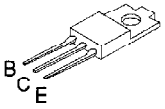

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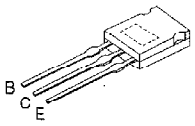

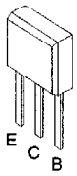

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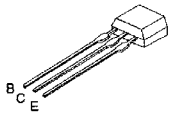

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2SC1740SSTA
RVTDTA114EST

RVTDTC114TST
RVTDTC124EST
RVTDTA124EST
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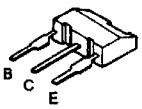

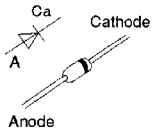

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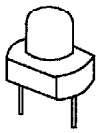
MA165TA
MA167TA



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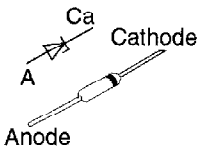
SLR-325MC
SLR-325VC



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MTZJ5R6CTA
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MTZJ6R8BTA
MTZJ5R1BTA
MTZJ5R6BTA

MTZJ10BTA
MTZJ3R6BTA
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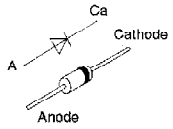

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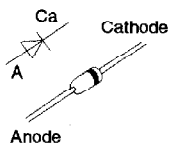

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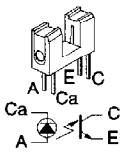

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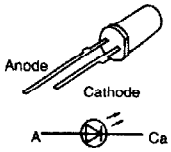

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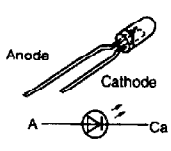
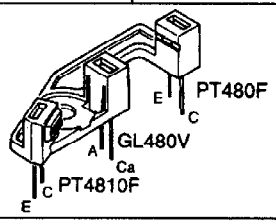




■ Terminal Function of ICs

• IC701 (AN8835SBE1) Servo Amplifier

Pin No.	Mark	I/O	Function
1	PDA	I	Focus signal input terminal 1 (Ach).
2	PDB	I	Focus signal input terminal 2 (Bch).
3	VCC	I	Power supply terminal.
4	LPD	I	Laser PD signal.
5	LD	O	Laser power auto control output.
6	RF	O	RF amplifier terminal.
7	RF IN	I	AGC input terminal.
8	CAGC	I	AGC detection capacitor input.
9	ARF	O	RF output
10	CSBRT	I	OFTR capacitor connection terminal.
11	CEA	I	HPF-AMP capacitor connection terminal.
12	BDO	O	Dropout detection control.
13	LDON	I	LD APC ON/OFF("H" : ON, "L" : OFF)
14	GND	—	GND terminal.

Pin No.	Mark	I/O	Function
15	/RFDET	O	RF detection signal ("L" : detection).
16	CROSS	O	Tracking error zero cross output.
17	OFTR	O	Off track detection ("H" : detection).
18	VDET	O	Oscillation detection signal ("H" : detection).
19	ENV	O	Envelope output terminal
20	TEBPF	I	Oscillation det. input terminal (Not used,open)
21	CCRS	I	CROSS capacitor connection terminal.
22	TE	O	Tracking error signal.
23	FE	O	Focus error signal.
24	TBAL	I	Tracking balance adjusting input
25	FBAL	I	Focus balance adjusting input
26	VREF	O	Reference voltage output
27	PDE	I	Tracking signal input terminal 1 (Ech).
28	PDF	I	Tracking signal input terminal 2 (Fch).

• IC703 (AN8389SE1) Focus coil / Tracking coil / Traverse motor / Spindle motor driver

Pin No.	Mark	I/O	Function
1	VCC	I	Power supply terminal
2	VREF	I	Reference voltage input
3	IN4	I	Motor driver (4) input
4	IN3	I	Motor driver (3) input
5	GND	—	Ground connection
6	NC	—	Ground connection
7	NRESET	I	Reset input
8	GND	—	Ground connection
9	IN2	I	Motor driver (2) input
10	PC2	I	PC2 (power cut) input
11	IN1	I	Motor driver (1) input
12	PC1	I	PC1 (power cut) input (Not used, open)

Pin No.	Mark	I/O	Function
13	PVCC1	I	Power supply (1) for driver
14	PGND1	—	Ground connection (1) for driver
15	D1–	O	Motor driver (1) reverse-action output
16	D1+	O	Motor driver (1) forward-action output
17	D2–	O	Motor driver (2) reverse-action output
18	D2+	O	Motor driver (2) forward-action output
19	D3–	O	Motor driver (3) reverse-action output
20	D3+	O	Motor driver (3) forward-action output
21	D4–	O	Motor driver (4) reverse-action output
22	D4+	O	Motor driver (4) forward-action output
23	PGND2	—	Ground connection (2) for driver
24	PVCC2	I	Power supply (2) for driver

• IC702 (MN662741RPA) Servo processor / Digital signal processor / Digital filter / D/A converter

Pin No.	Mark	I/O	Function
1	BCLK	O	Serial bit clock terminal (Not used, open)
2	LRCK	O	L/R discriminating signal (Not used, open)
3	SRDATA	O	Serial data (Not used, open)
4	DVDD1	I	Power supply (digital circuit) terminal
5	DVSS1	—	GND (digital circuit) terminal
6	TX	O	Digital audio interface signal
7	MCLK	I	Microprocessor command clock signal
8	MDATA	I	Microprocessor command data signal
9	MLD	I	Microprocessor command load signal
10	SENSE	O	Sense signal output
			(OFT,FESL,MAGEND,NAJEND,POSAD,SFG)
11	/FLOCK	O	Optical servo condition(focus)("L" : lead-in)
12	/TLOCK	O	Optical servo condition(tracking)("L" : lead-in)
13	BLKCK	O	Sub-code block clock (f=75Hz)
14	SQCK	I	External clock signal input for sub-code Q
			register.
15	SUBQ	O	Sub-code Q code output
16	DMUTE	I	Muting input ("H" : mute)
17	STAT	O	Status signal output
			(CRC,CUE,CLVS,TTSTVP,FCLV,SQCK)
18	/RST	I	Reset input
19	SMCK	O	1/2-divided clock signal of crystal oscillating at
			MSEL = "H" (fSMCK=8.4672MHz)
			1/4-divided clock signal of crystal oscillating at
			MSEL="L" (fSMCK=4.2336MHz)
20	PMCK	O	1/192-divided clock signal of crystal oscillating
			(fPMCK=88.2kHz) (Not used, open)
21	TRV	O	Traverse servo control output
22	TVD	O	Traverse drive signal output
23	PC	O	Spindle motor ON signal output ("L" : ON)
24	ECM	O	Spindle motor drive signal output
			(forced mode output)
25	ECS	O	Spindle motor drive signal output
			(servo error signal output)
26	KICK	O	Kick pulse output
27	TRD	O	Tracking drive output
28	FOD	O	Focus drive output
29	VREF	I	D/A (drive) output (TVD,ECS,TRD,FOD,
			FBAL,TBAL) Reference voltage input.
30	FBAL	O	Focus balance adjustment output
			(Not used,open)
31	TBAL	O	Tracking balance adjustment output
32	FE	I	Focus error signal input (analog input)
33	TE	I	Tracking error signal input (analog input)
34	RFENV	I	RF envelope signal input
35	VDET	I	Vibration detection signal input ("H" : detection)

Pin No.	Mark	I/O	Function
36	OFT	I	Off-track signal input ("H" : off track)
37	TRCRS	I	Track cross signal input
38	/RFDET	I	RF detection signal input ("L" : detection)
39	BDO	I	Dropout signal input ("H" : Dropout)
40	LDON	O	Laser on signal output ("H" : ON)
41	TES	O	Tracking error shunt signal output ("H" : shunt)
42	PLAY	O	Play signal out ("H" : PLAY)
43	WVEL	O	Double speed status signal output ("H" : DS)
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	I	DSL bias (Not used, open)
47	DSLF	I/O	DSL loop filter
48	PLLF	I/O	PLL loop filter
49	VCOF	I/O	VCO loop filter (Not used, open)
50	AVDD2	I	Power supply input (for analog circuit)
51	AVSS2	—	GND (for analog circuit)
52	EFM	O	EFM signal output (Not used, open)
53	PCK	O	PLL extraction clock ouput (Not used, open)
			(fPCK=4.321 MHz during normal playback)
54	PDO	O	Phase comparison signal of EFM and PCK signals
			(Not used, open)
55	SUBC	O	Sub-code serial data output (Not used, open)
56	SBCK	I	Sub-code frame clock signal output
			(fCLDCK=7.35kHz during normal playback)
57	VSS	—	GND
58	X1	I	Crystal oscillating circuit input (f=16.9344MHz)
59	X2	O	Crystal oscillating circuit output (f=16.9344MHz)
60	VDD	I	Power supply input (for oscillating circuit)
61	BYTCK	O	Byte clock output (Not used, open)
62	/CLDCK	O	Clock input for sub-code serial data
			(Not used, open)
63	FCLK	O	Crystal frame clock signal output
			(fCLK=7.35kHz, double=14.7kHz)
64	IPFLAG	O	Interpolation flag output ("H" : interpolation)
			(Not used, open)
65	FLAG	O	Flag output (Not used, open)
66	CLVS	O	Spindle servo phase synchronizing signal output
			("H" : CLV, "L" : rough servo) (Not used, open)
67	CRC	O	Sub-code CRC checked output
			("H" : OK, "L" : NG) (Not used, open)
68	DEMPH	O	De-emphasis ON signal output
			("H" : ON) (Not used, open)
69	RESY	O	Frame resynchronizing signal output
			(Not used, open)
70	/RST2	I	Reset input through MASH circuit ("L" : Reset)
71	/TEST	I	Test input

Pin No.	Mark	I/O	Function
72	AVDD1	I	Power supply input (for analog circuit)
73	OUTL	O	Left channel audio signal output
74	AVSS1	—	GND
75	OUTR	O	Right channel audio signal output
76	RSEL	I	RF signal polarity assignment input
			(at "H" level, RSEL="H", at "L" level, RESL="L")
77	CSEL	I	Crystal oscillating frequency designation input
			"L" : 16.9344MHz "H" : 33.8688MHz
78	PSEL	I	Test input (normally "L") (Not used, open)
79	MSEL	I	Output mode switching of SUBQ terminal
			("H" : Q code buffer mode)
80	SSEL	I	Output frequency switching for SMCK terminal
			"H" : SMCK=8.4672MHz
			"L" : MCK=4.2336MHz (Not used, open)

• IC401 (UPD78043A042) System Control

Pin No.	Mark	I/O	Function
1~6	NC	—	Not connected.
7	LIGHT	—	Not connected.
8	VDD	I	Power input.
9	SCK	O	Serial clock output.
10	SDO	—	Not connected.
11	SDI	I	Serial data input.
12	/CS	O	Chip select.
13	DMUTE	O	Muting control.
14	SQCK	O	Sub code Q resistor clock output.
15	NC	—	Not connected.
16	SUBQ	I	Sub code Q data input.
17	/RESET	I	Reset signal input.
18	KBCLK	—	Not connected.
19	KBDATA	—	Not connected.
20	AVSS	—	GND.
21	/RSTSV	O	Reset signal output.
22	CDREQ	O	CD request signal output.
23	DIR	O	Motor control signal.
24	SLIDE	O	Motor control signal output.
25	LOAD	O	Motor control signal.
26	NC	—	Not connected.
27	H-60	—	No use (connect to power).
28	NC	—	Not connected.
29	AVDD	I	Power input.
30	AVREF	I	GND.
31	XT1	—	GND.
32	XT2	—	Not connected.
33	VSS	—	GND.
34	X1	I	Ceramic oscillator (f=4.2336MHz).
35	X2	O	Ceramic oscillator (f=4.2336MHz).
36	MCLK	O	Command clock signal output.
37	MDATA	O	Command data signal output.
38	MLD	O	Command load signal output ("L" : Load).
39~42	NC	—	Not connected.
43	PWM	O	Motor control signal output.
44	POFF	O	GND.
45	POSITION	I	Tray position detection input.
46	SPEED	I	Loading motor speed sensor.
47	REMOCON	I	GND.
48	IC	—	GND.
49	/EPHOLD	—	Not connected.
50	EPSO	—	Not connected.
51	EPCLK	—	Not connected.
52	VDD	I	Power input.
53	POWER	—	Not connected.
54	EPSI	—	Not connected.
55	/EPCS	—	Not connected.
56	SINGLE	I	Disc slot detection (Single play).
57	DISC	I	Disc control signal input.
58	MLOCK	I	Mechanism detection (S501).
59	CLAMP	I	Mechanism detection (S502).
60	FREE	I	Mechanism detection (S503).
61	NC	—	Not connected.
62	STAT	I	Status signal input.
63	REST	I	Rest position detection.
64	MSC	—	Not connected.
65	STP1	—	Connect to GND through resistor.
66	STP2	—	Connect to GND through resistor.
67~70	NC	—	Not connected.
71	VPP	—	GND.
72~80	NC	—	Not connected.

• IC601 (M38197MA131F) System Microprocessor

Pin No.	Mark	I/O	Function
1	DECK	I	Mecha condition input. (HALF / RECINH_F / RECINH_R / MODE)
2	PHOTO	I	Counter detector.
3	NC	—	GND
4	CRT	I	CRT input.
5~8	KEY4 ~ KEY1	I	Key switch input.
9	SER1	O	Serial clock (EX1 CLK, EX2 CLK)
10	MTR	O	Motor control. (Volume)
11	SER2	O	Serial data/clock(EX1 DAT, GEC DAT)
12	SER3	O	Serial data (EX2 DAT, GEC CLK).
13	SER4	O	Serial data (GEC LATCH).
14	PLG	O	Planger control.
15	REC_L	O	Record low swtiching control.
16	DMUT	O	Deck mute output.
17	BP1	O	Beatproof output 1.
18	BP2	O	Beatproof output 2.
19	CS	I	CD CS.
20	CLK1	I	CD clock input.
21	SO1	O	CD data output.
22	SI1	I	CD data input.
23	REQ	I/O	CD request.
24	MCRST	O	MCRST.
25	/PLLCE	O	/Tuner PLL chip enable.
26	/PLLDA	O	/Tuner PLL data output.
27	/PLLCK	O	/Tuner clock output.
28	MIC SW	O	MIC jack SW on/off
29	NC	—	GND
30	CD MPCN	O	MECHA control power.
31	RMT	I	Remote control signal input.

Pin No.	Mark	I/O	Function
32	DCDET	I	DC detect input.
33	P.CONT	O	Power control signal.
34	SYNC	I	AC failure detect input.
35	RESET	I	Reset input.
36	XCIN	I	32.768 sub clock
37	XCOUT	O	
38	XIN	I	6MHz main clock
39	XOUT	O	6MHz main clock.
40	VSS	—	GND
41	MBP1	O	MPU beat proof output 1.
42	MBP2	O	MPU beat proof output 2.
43	CDGMUTE	—	NC
44	/CDGRESET	—	NC
45~48	NC	—	NC
49~64	DIG1 ~ 16	O	Digit drive output (GRID).
65~80	SEG1 ~16	O	Segment drive output (ANODE).
81~88	SEG17 ~ 24	O	Segment drive output (ANODE) and key scan ouput.
89	JOG A	I	JOG input A.
90	JOG B	I	JOG input B.
91	VCC	—	Power (+5V).
92	REG IN	I	Area setting input.
93~94	NC	—	NC
95	SD IN	I	Tuner signal detection input.
96	STEREO IN	I	Tuner stereo detection input.
97	DO IN	I	Tuner PLL IF data input.
98	VP	—	Power (–30V).
99	AVSS	—	Power (0V)
100	VREF	—	Reference A-D.

■ Schematic Diagram

(All schematic diagrams may be modified at any time with the development of new technology)

Note :

- **S501** : Lock detect switch.
- **S502** : Clamp detect switch.
- **S503** : Clamp detect switch.
- **S700** : CD switch.
- **S701** : Reset switch.
- **S701** : Single play switch.
- **S702** : CD edit switch.
- **S703** : Group A switch.
- **S704** : Group B switch.
- **S705** : Group C switch.
- **S706** : Group D switch.
- **S707** : Group E switch.
- **S708** : Group F switch.
- **S709** : Group mode switch.
- **S710** : Group enter switch.
- **S711** : Group name enter switch.
- **S712** : Disk skip / Group name (+) switch.
- **S713** : Disk skip / Group name (–) switch.
- **S715** : V. Bass switch.
- **S716** : EQ. Space switch.
- **S717** : AUX switch.
- **S718** : Tuner select switch.
- **S719** : CD select switch.
- **S720** : Tape select switch.
- **S723** : REC. start switch.
- **S724** : REV. mode switch.
- **S725** : Timer REC. / Play switch.
- **S726** : Clock / Timer switch.
- **S727** : Power switch.
- **S728** : Memory / Set switch.
- **S729** : REV. / Down switch.
- **S730** : Stop / Tuning mode switch.
- **S731** : FF / Up switch.
- **S732** : FM Mode / BP select switch.
- **S733** : Deck open switch.
- **S971** : Deck mode detect switch.
- **S972** : Deck tape detect switch.
- **S973** : Deck CrO_2 detect switch.
- **S974** : Deck record detect switch.
- **S975** : Deck record detect switch.
- **VR501** : CD sensor adjustment.
- **VR603** : Jog volume control.

• Signal line

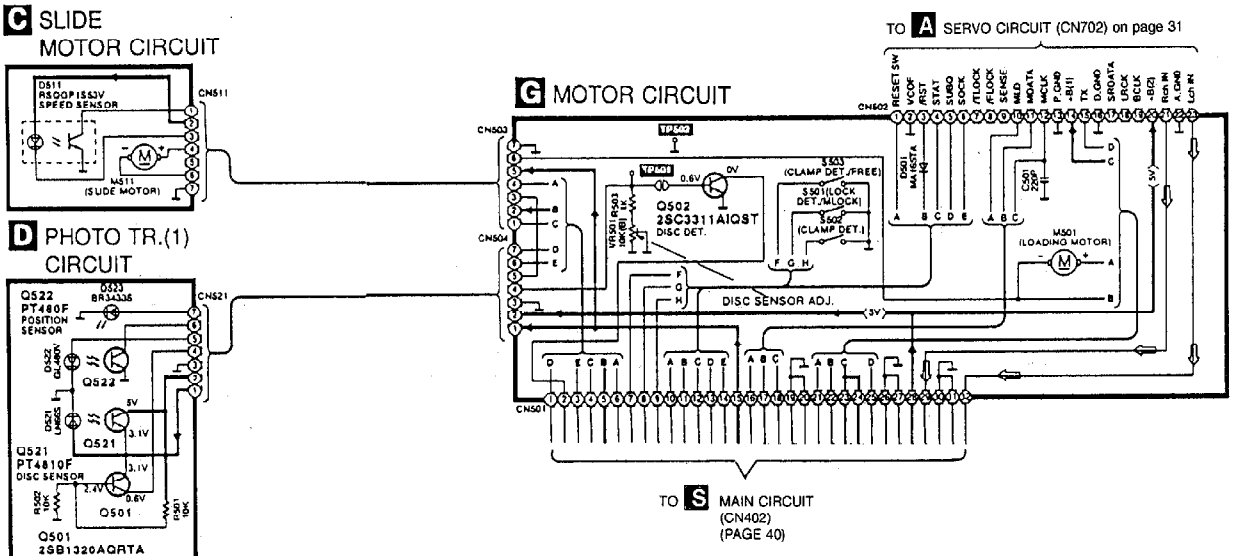
: +B line	: Playback signal line	: AM signal line
: –B line	: Record signal line	: AM OSC signal line
: FM/AM signal line	: CD signal line	: FM OSC signal line
: Main signal line	: FM signal line	: Aux signal line

•The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis.
Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

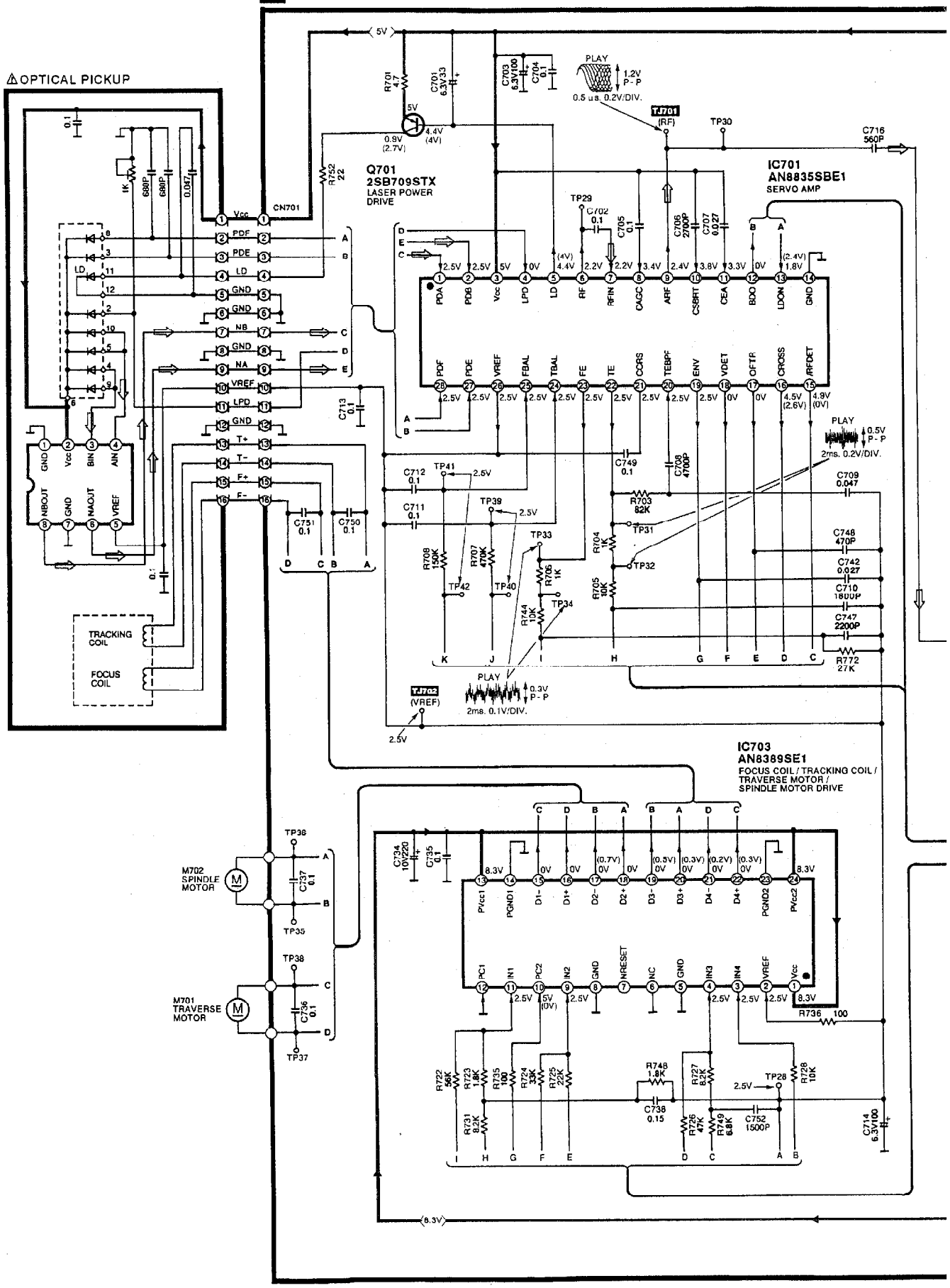
No mark : Playback << >>.....Tape Recording (( )) : CD ( ) ..... AM < > ..... FM

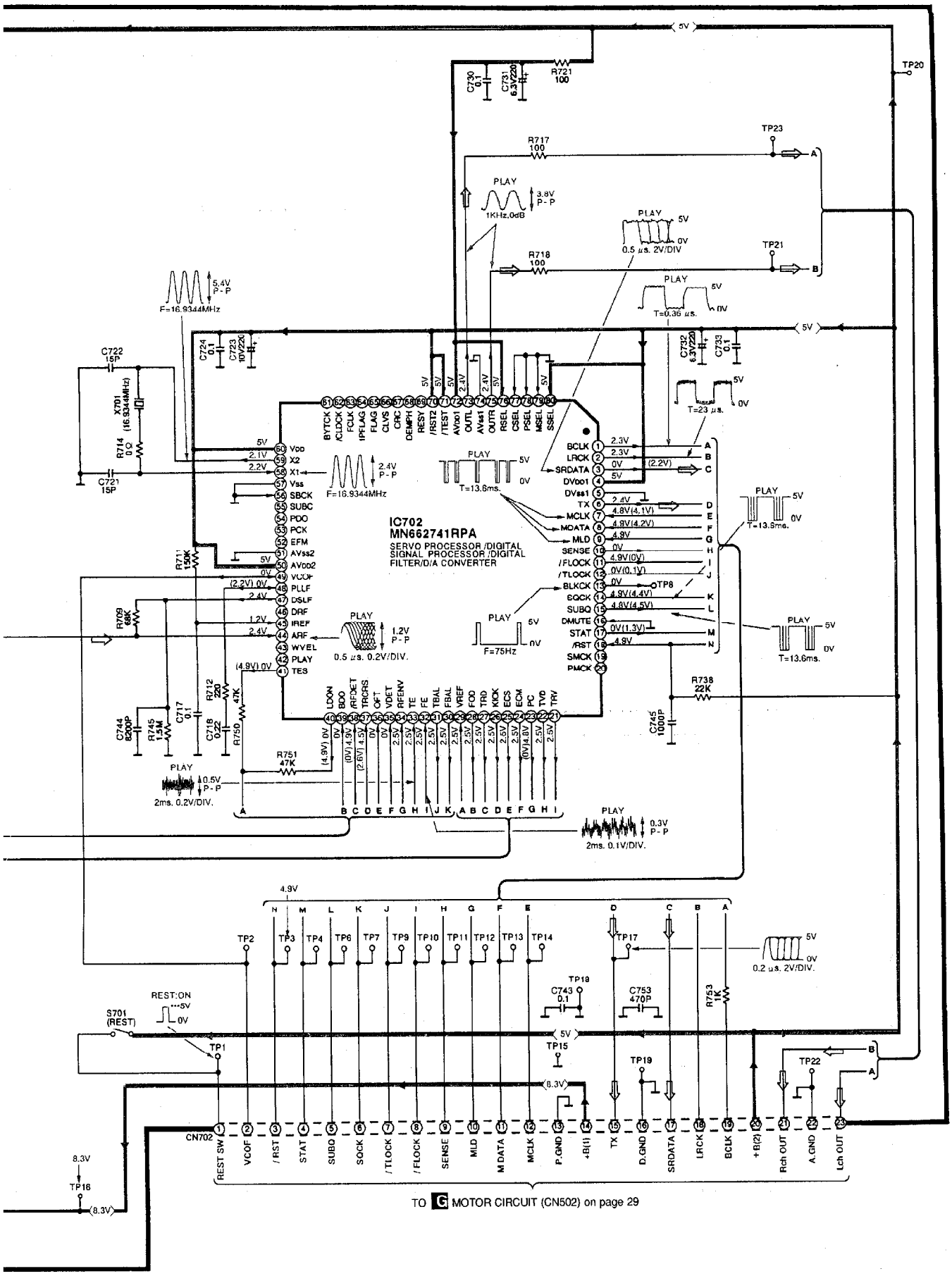
•Importance safety notice:
Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !
IC, LSI and VLSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
•Cover the parts boxes made of plastics with aluminium foil.
•Ground the soldering iron.
•Do not touch the pins of IC, LSI or VLSI with fingers directly.
•Put a conductive mat on the work table.

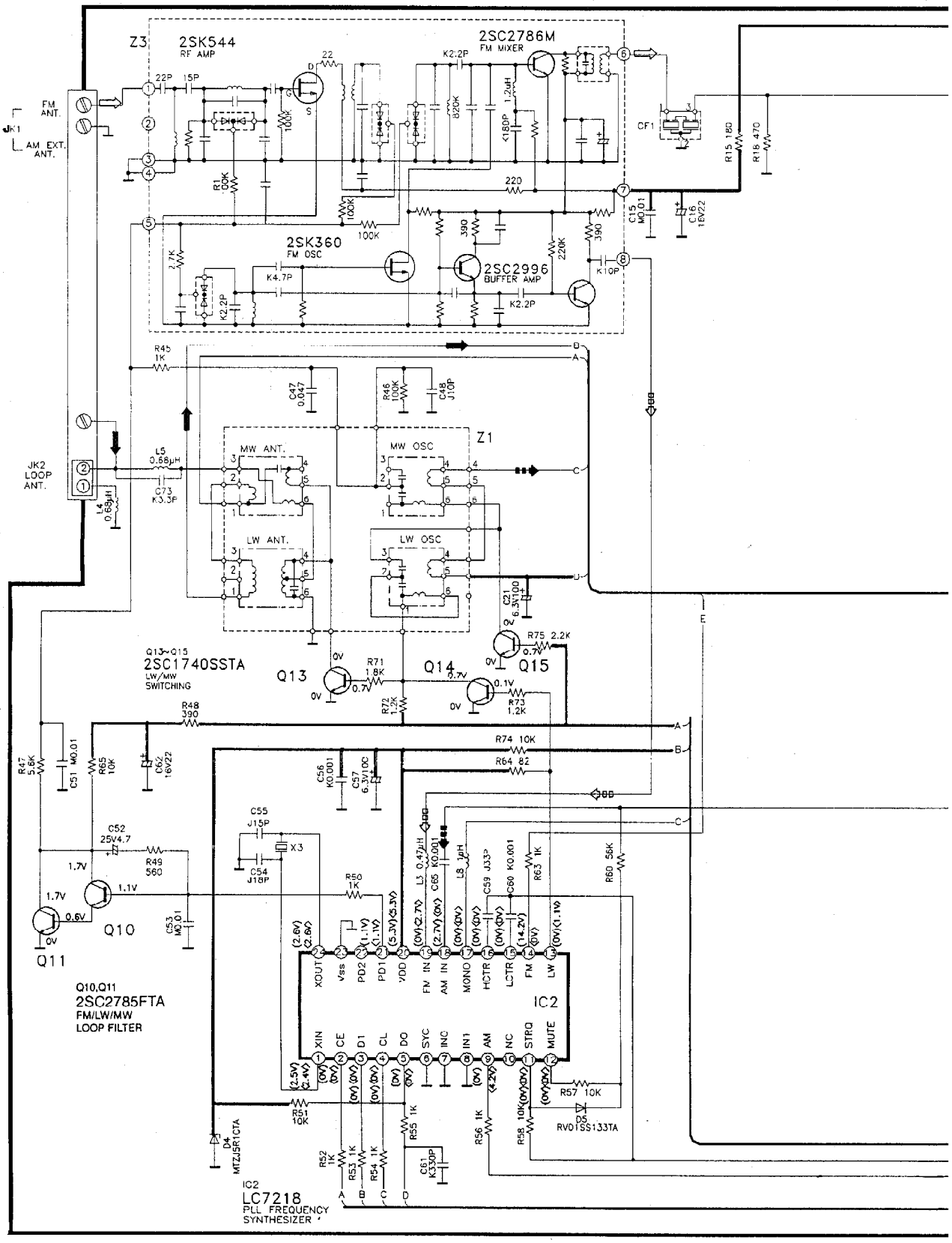

C SLIDE MOTOR CIRCUIT
D PHOTO TR.(1) CIRCUIT
G MOTOR CIRCUIT
TO A SERVO CIRCUIT (CN702) on page 31
TO S MAIN CIRCUIT (CN402) (PAGE 40)
Q502 2SC3311AIQST DISC DET.
DISC SENSOR ADJ.
M501 (LOADING MOTOR)
M511 (SLIDE MOTOR)
Q522 PT480F POSITION SENSOR
Q521 PT4810F DISC SENSOR
Q501 2SB1320AQRTA DISC DET.

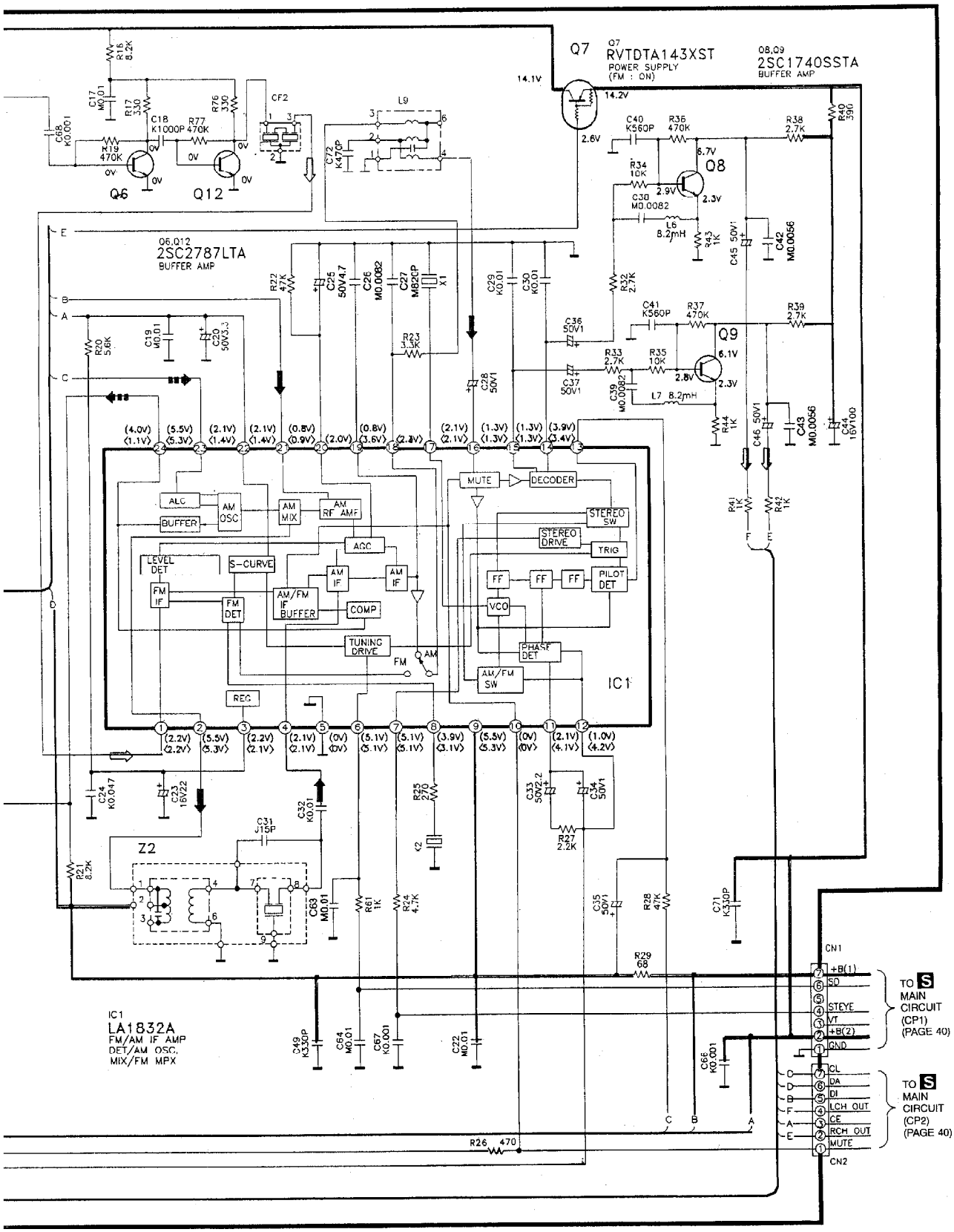
A SERVO CIRCUIT (P.C. Board: on page 43)

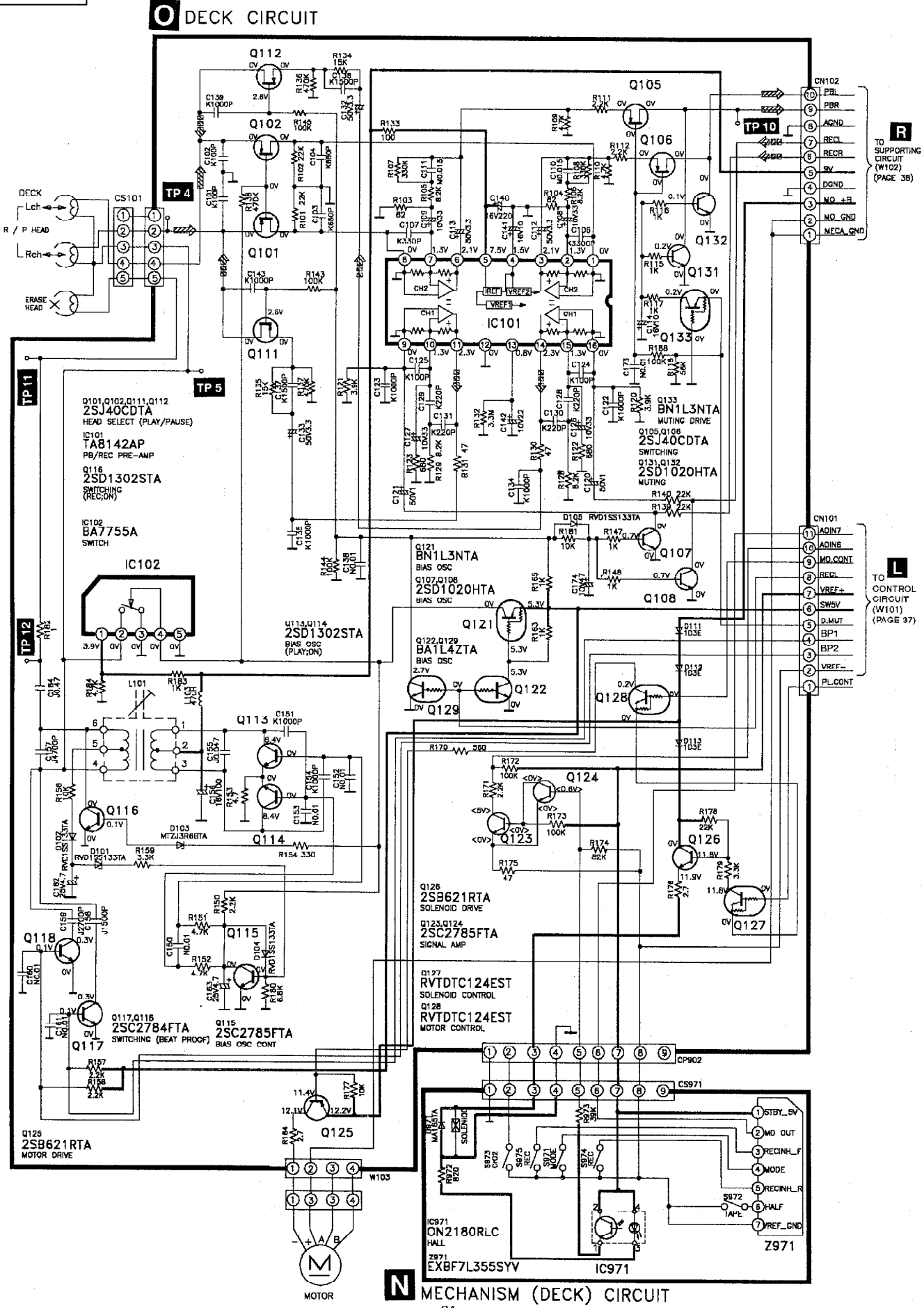



IC702
MN662741RPA
SERVO PROCESSOR /DIGITAL SIGNAL PROCESSOR /DIGITAL FILTER/D/A CONVERTER
CN702
REST SW
VCOF
/ RST
STAT
SUBQ
SOCK
/ TLOCK
/ FLOCK
SENSE
MLD
M DATA
MCLK
P.GND
+B(I)
TX
D.GND
SRDATA
LRCK
BCLK
+ B(2)
Rch OUT
A.GND
Lch OUT
TO G MOTOR CIRCUIT (CN502) on page 29

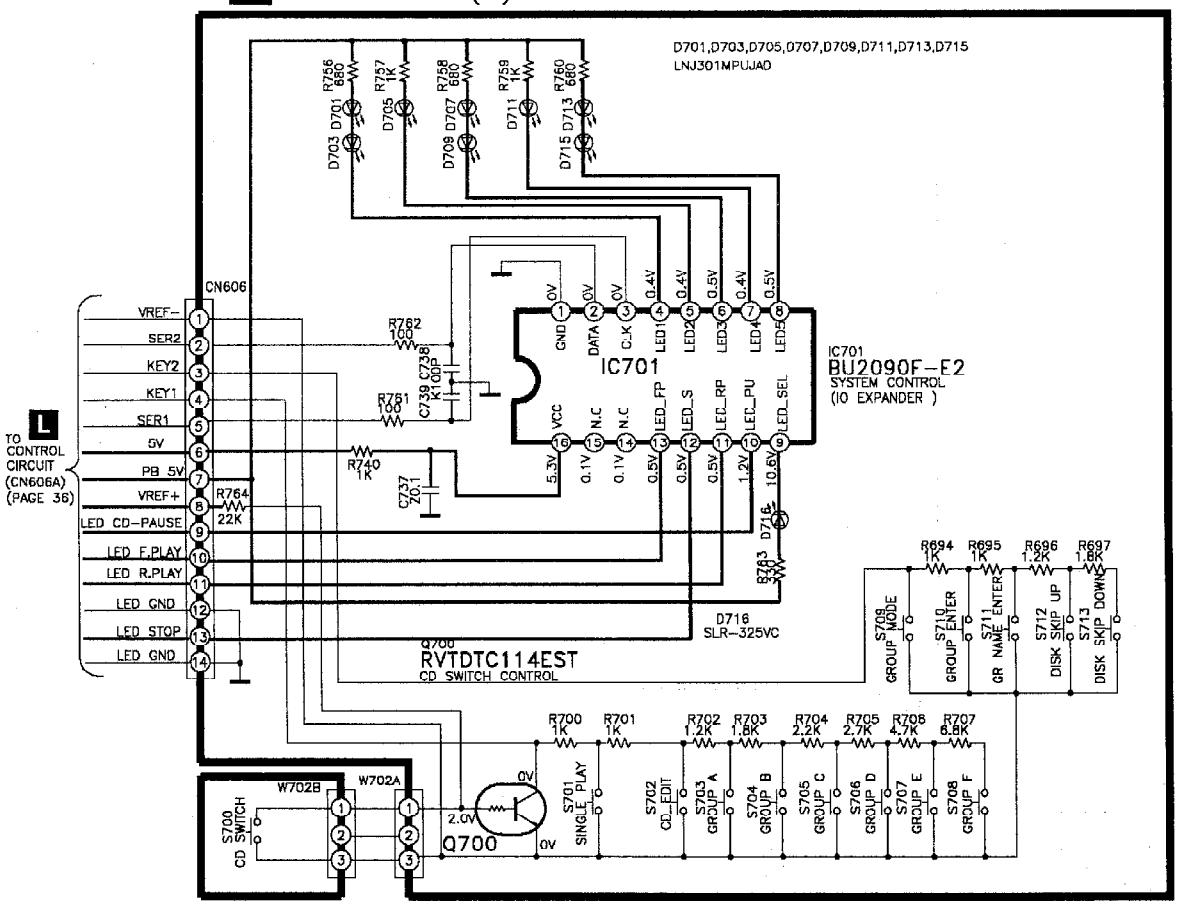
B TUNER CIRCUIT




Q7
Q7
RVTDTA143XST
POWER SUPPLY
(FM : ON)
08,09
2SC1740SSTA
BUFFER AMP
Q6
Q12
Q8
Q9
06,012
2SC2787LTA
BUFFER AMP
IC1
LA1832A
FM/AM IF AMP
DET/AM OSC.
MIX/FM MPX
MUTE
DECODER
STEREO SW
STEREO DRIVE
TRIG
PILOT DET
VCO
PHASE DET
AM/FM SW
AGC
AM OSC
AM MIX
AM RF AMP
BUFFER
LEVEL DET
S-CURVE
FM IF
FM DET
AM/FM IF BUFFER
COMP
TUNING DRIVE
REG
Z2
CN1
+B(1)
SD
STEYE
VT
+B(2)
GND
CL
DA
DI
LCH OUT
CE
RCH OUT
MUTE
CN2
TO S MAIN CIRCUIT (CP1) (PAGE 40)
TO S MAIN CIRCUIT (CP2) (PAGE 40)

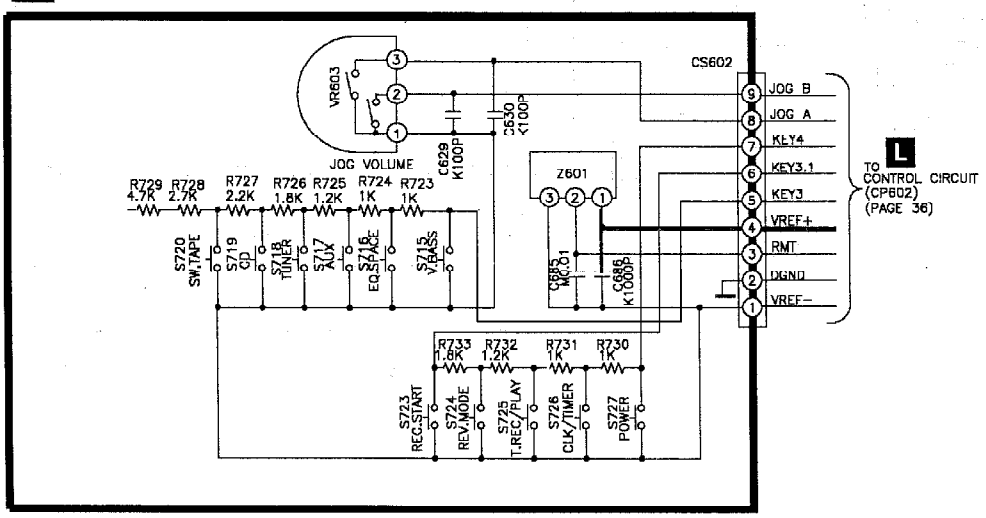

O DECK CIRCUIT
TP 4
TP 5
TP 10
TP 11
TP 12
DECK
Lch
Rch
R / P HEAD
ERASE HEAD
CS101
Q101,Q102,Q111,Q112
2SJ40CDTA
HEAD SELECT (PLAY/PAUSE)
IC101
TA8142AP
PB/REC PRE-AMP
Q116
2SD1302STA
SWITCHING (REC;ON)
IC102
BA7755A
SWITCH
Q113,Q114
2SD1302STA
BIAS OSC (PLAY;ON)
Q121
BN1L3NTA
BIAS OSC
Q107,Q108
2SD1020HTA
BIAS OSC
Q122,Q129
BA1L4ZTA
BIAS OSC
Q105,Q106
2SJ40CDTA
SWITCHING
Q131,Q132
2SD1020HTA
MUTING
Q133
BN1L3NTA
MUTING DRIVE
Q126
2SB621RTA
SOLENOID DRIVE
Q123,Q124
2SC2785FTA
SIGNAL AMP
Q127
RVTDTC124EST
SOLENOID CONTROL
Q128
RVTDTC124EST
MOTOR CONTROL
Q117,Q118
2SC2784FTA
SWITCHING (BEAT PROOF)
Q115
2SC2785FTA
BIAS OSC CONT
Q125
2SB621RTA
MOTOR DRIVE
MOTOR
CN102
PBL
PBR
AGND
RECL
RECR
9V
DGND
MD +B
MD GND
MECA GND
R
TO SUPPORTING CIRCUIT (W102) (PAGE 38)
CN101
AOIN7
AOIN8
MD CONT
REC
VREF+
SW5V
D.MUT
BP1
BP2
VREF-
PL CONT
L
TO CONTROL CIRCUIT (W101) (PAGE 37)
CP902
CS971
W103
IC971
ON2180RLC
HALL
Z971
EXBF7L355SYV
STBY_5V
MD OUT
RECINH_F
MODE
RECINH_R
HALF
VREF_GND
N MECHANISM (DECK) CIRCUIT

F OPERATION (1) CIRCUIT

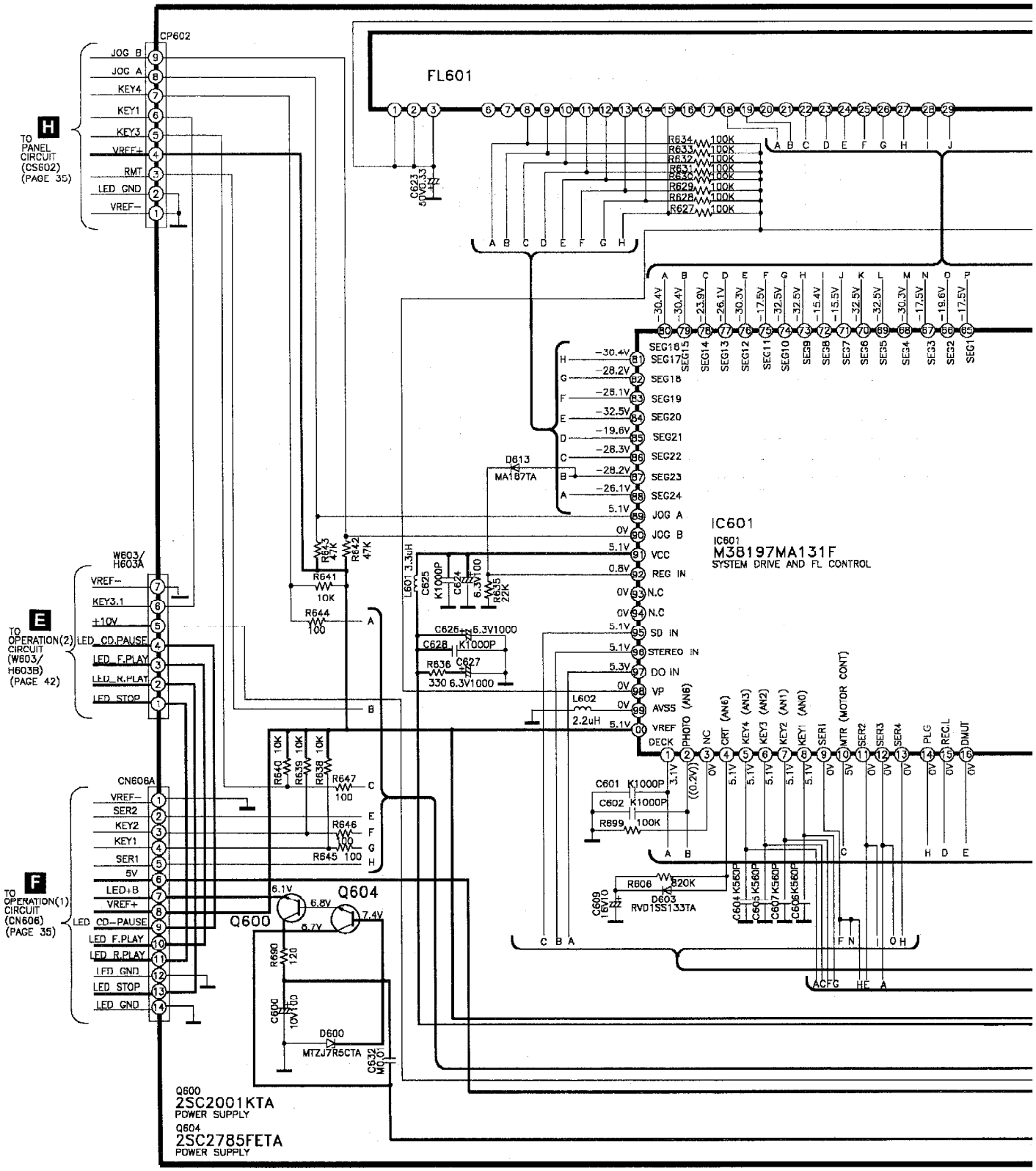


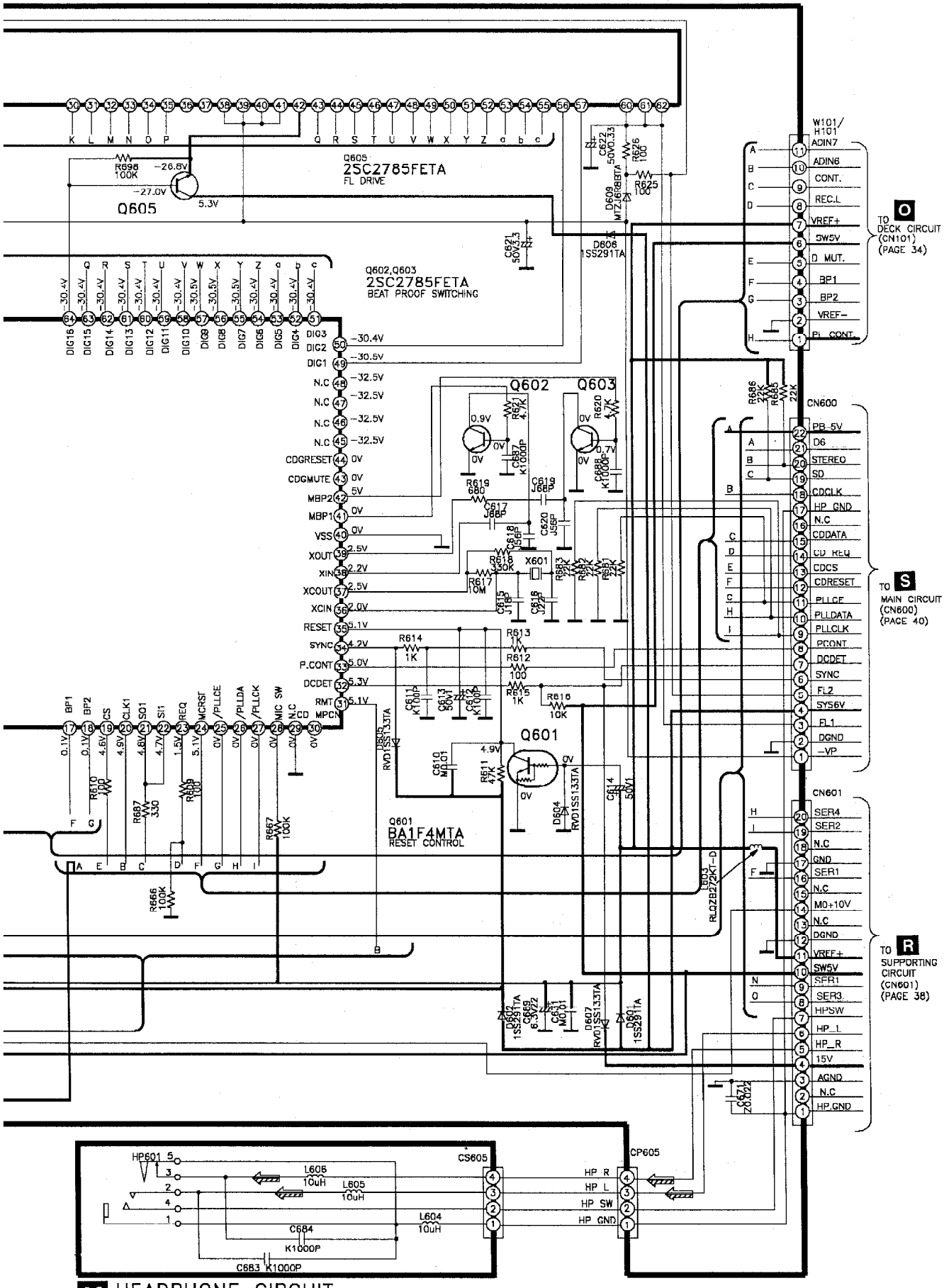
Q CD SWITCH CIRCUIT

H PANEL CIRCUIT



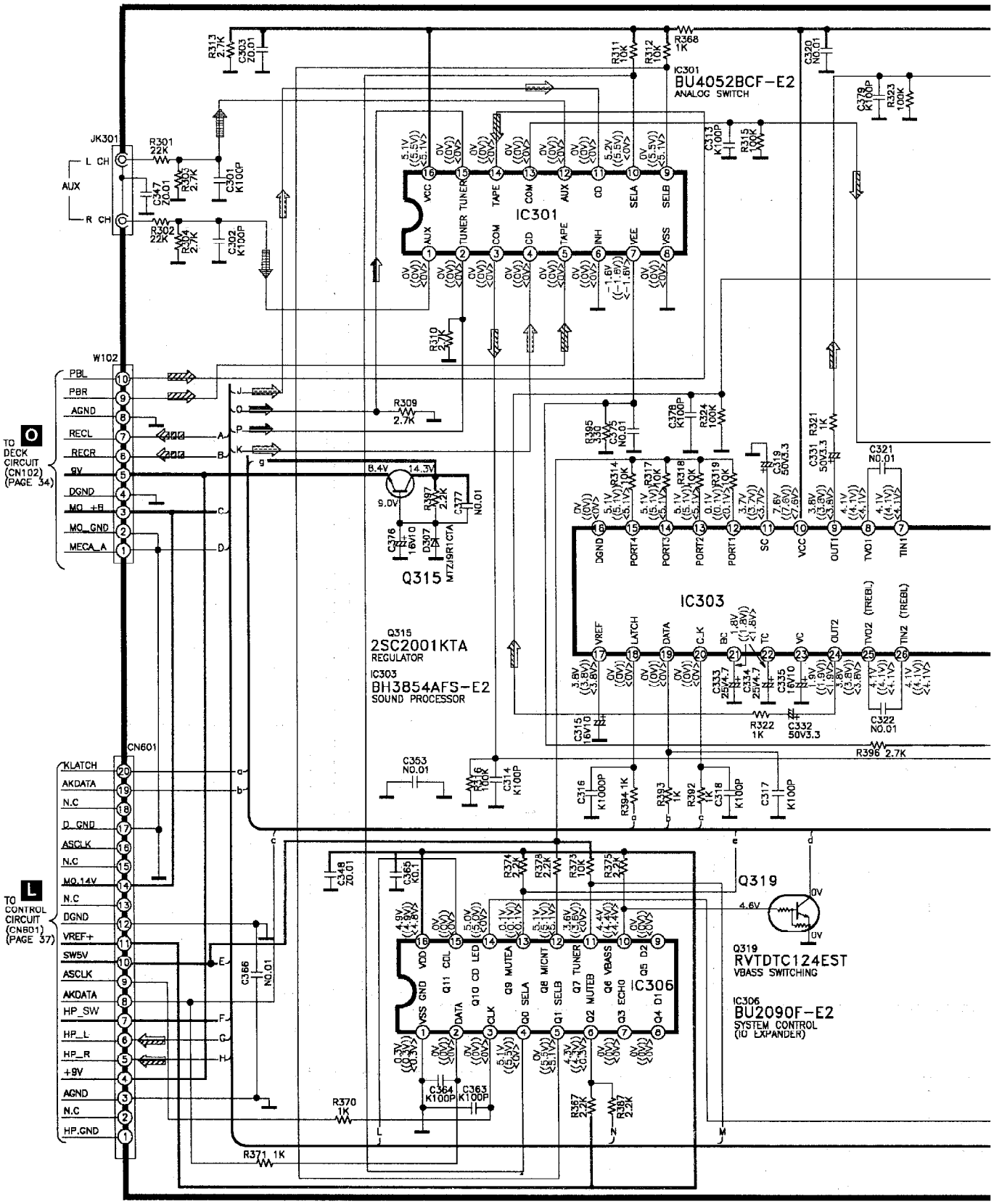
L CONTROL CIRCUIT

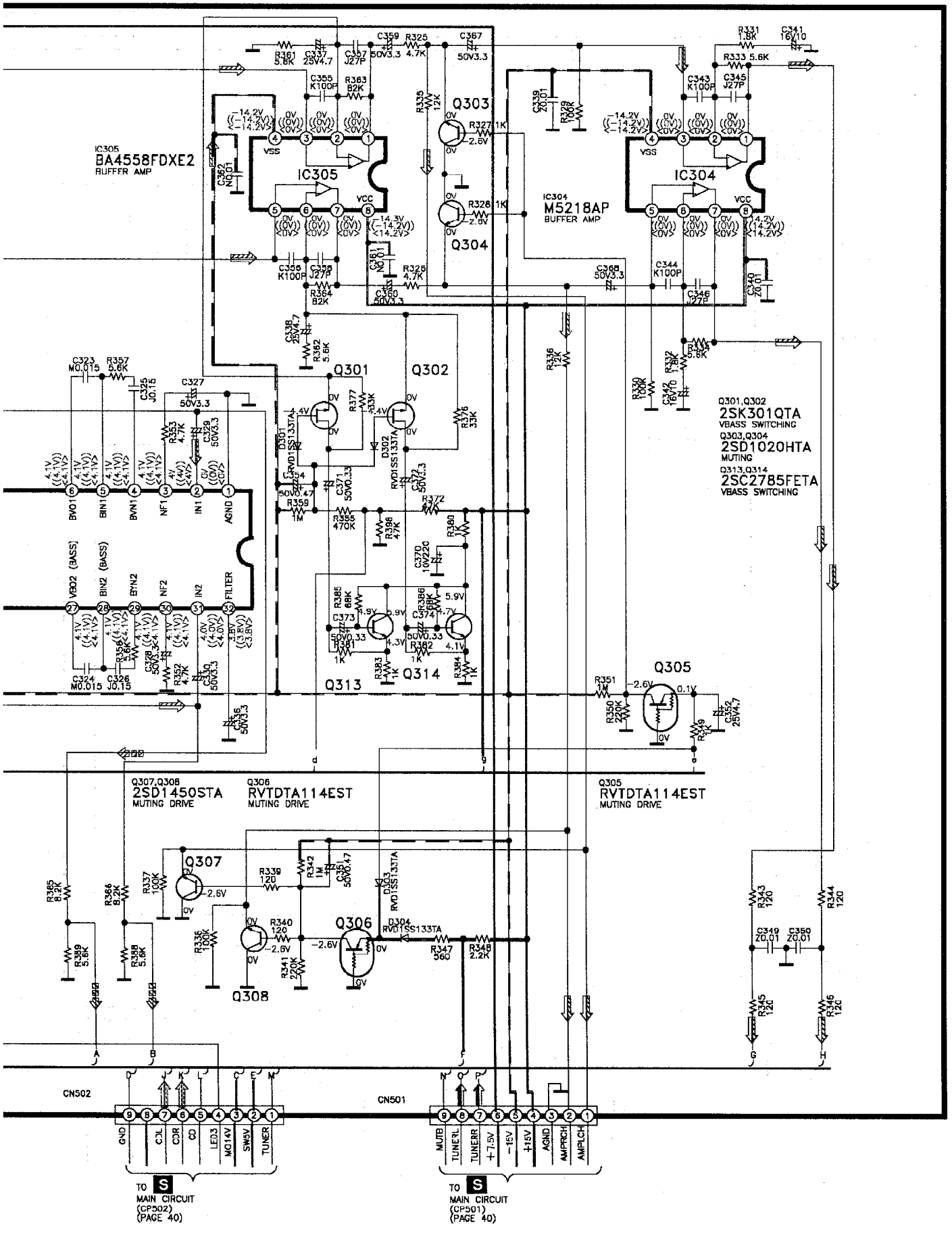




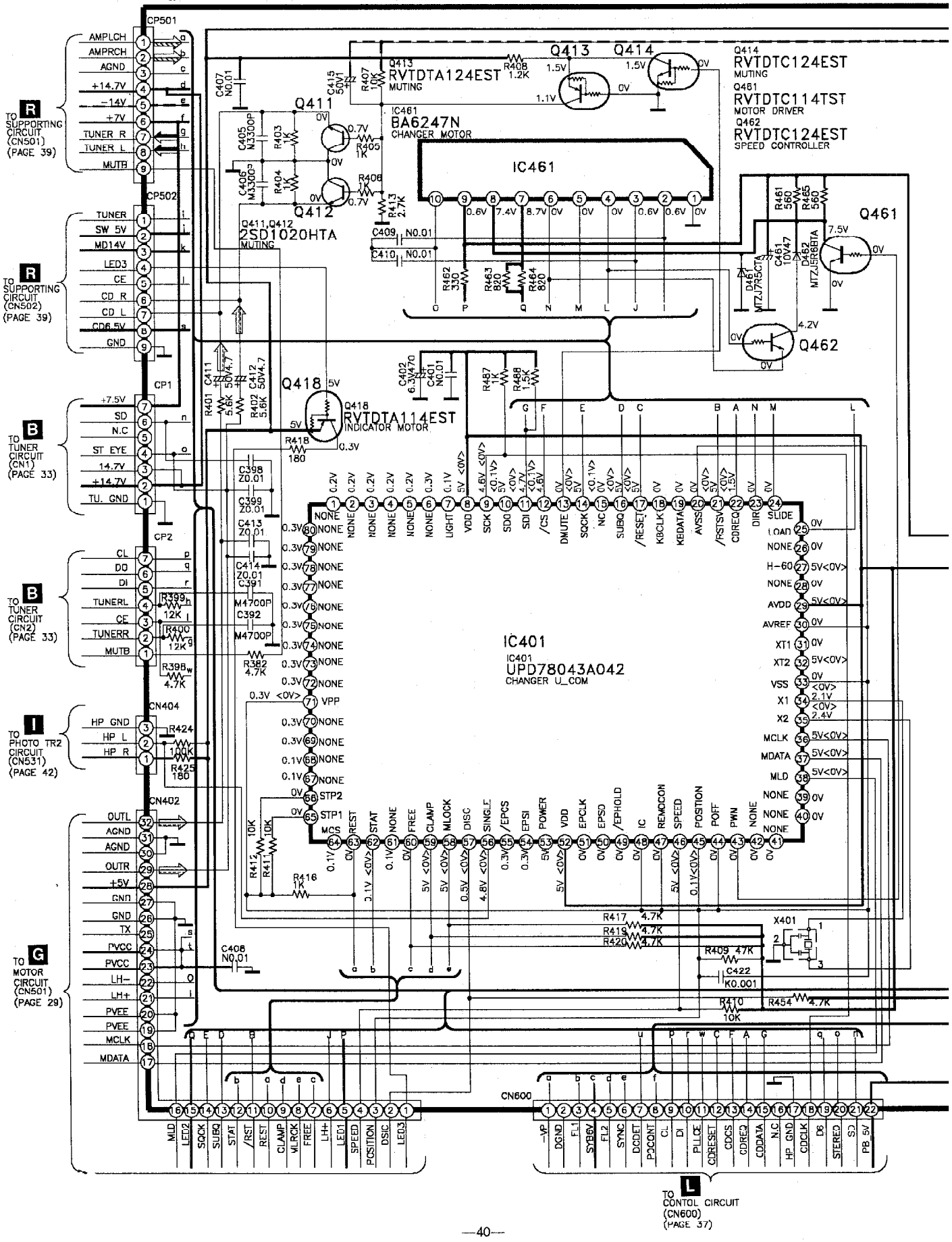
K HEADPHONE CIRCUIT

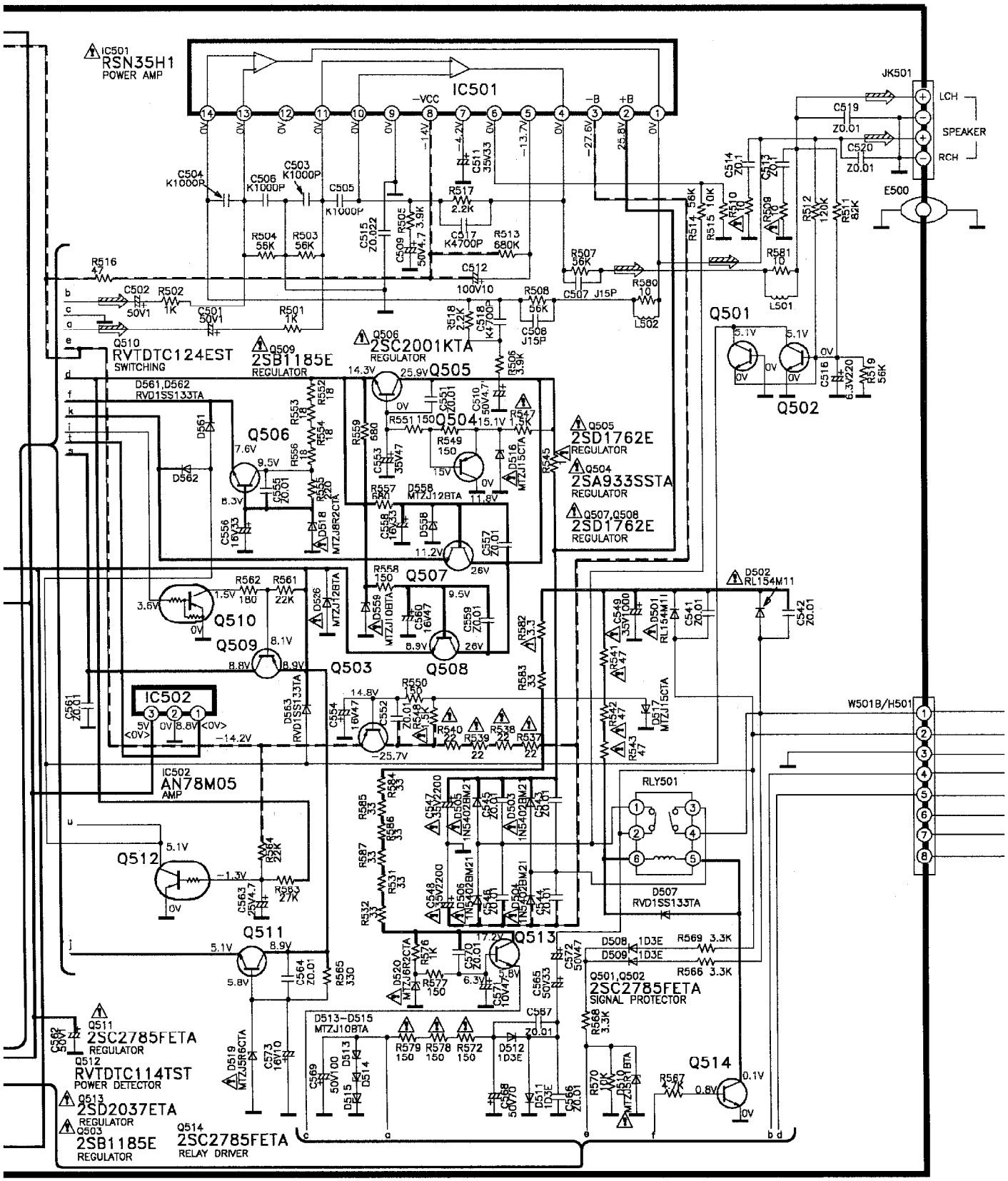
R SUPPORTING CIRCUIT



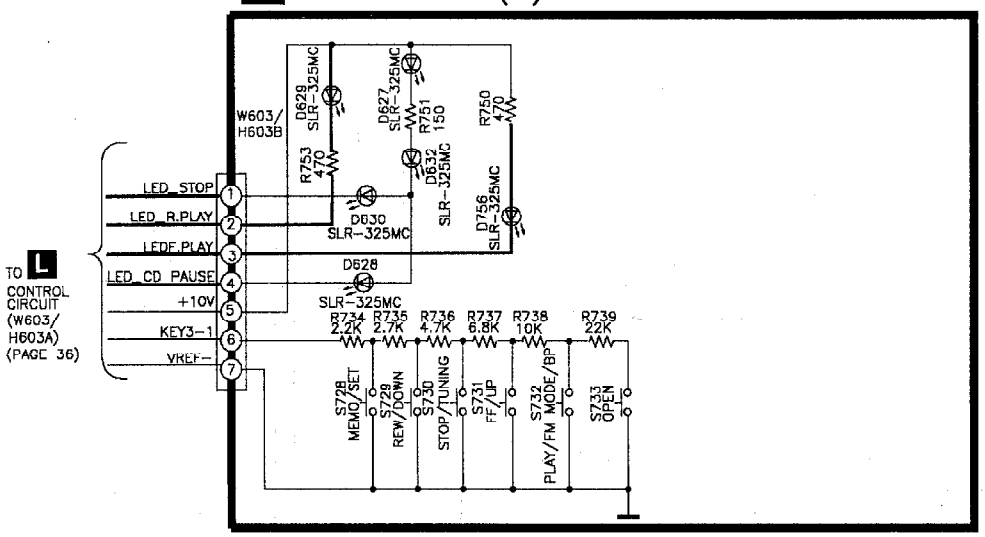

IC305
BA4558FDXE2
BUFFER AMP
IC305
IC304
M5218AP
BUFFER AMP
Q303
Q304
Q301
Q302
Q313
Q314
Q305
Q307
Q308
Q306
Q301,Q302
2SK301QTA
VBASS SWITCHING
Q303,Q304
2SD1020HTA
MUTING
Q313,Q314
2SC2785FETA
VBASS SWITCHING
Q307,Q308
2SD1450STA
MUTING DRIVE
Q306
RVTDTA114EST
MUTING DRIVE
Q305
RVTDTA114EST
MUTING DRIVE
CN502
CN501
GND
CJL
CDR
CD
LED3
MG14V
SW5V
TUNER
MUTB
TUNERL
TUNERR
+7.5V
−15V
+15V
AGND
AMPRCH
AMPLCH
TO S MAIN CIRCUIT (CP502) (PAGE 40)
TO S MAIN CIRCUIT (CP501) (PAGE 40)

S MAIN CIRCUIT

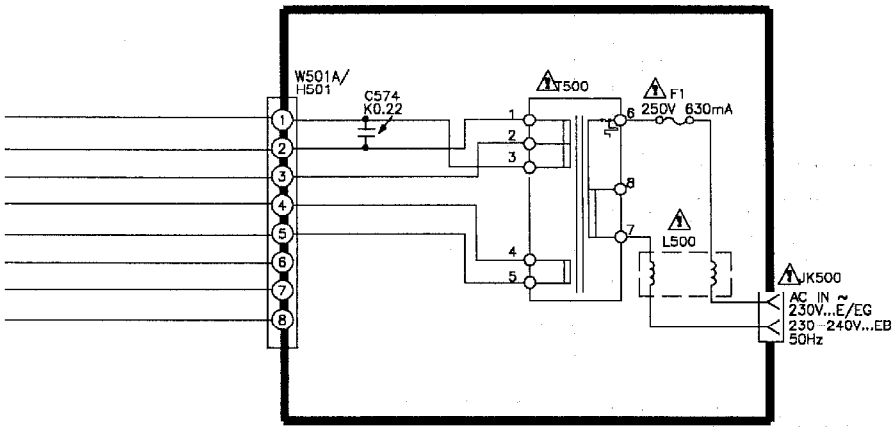



IC501
RSN35H1
POWER AMP
IC501
JK501
LCH
SPEAKER
RCH
E500
Q501
Q502
Q504
2SA933SSTA
REGULATOR
Q505
2SD1762E
REGULATOR
Q506
2SC2001KTA
REGULATOR
Q507,Q508
2SD1762E
REGULATOR
Q509
2SB1185E
REGULATOR
Q510
RVTDTC124EST
SWITCHING
Q511
2SC2785FETA
REGULATOR
Q512
RVTDTC114TST
POWER DETECTOR
Q513
2SD2037ETA
REGULATOR
Q503
2SB1185E
REGULATOR
Q514
2SC2785FETA
RELAY DRIVER
Q501,Q502
2SC2785FETA
SIGNAL PROTECTOR
IC502
AN78M05
AMP
D502
RL154M11
RLY501
W501B/H501
D561,D562
RVD1SS133TA
D507
RVD1SS133TA
D513–D515
MTZJ10BTA

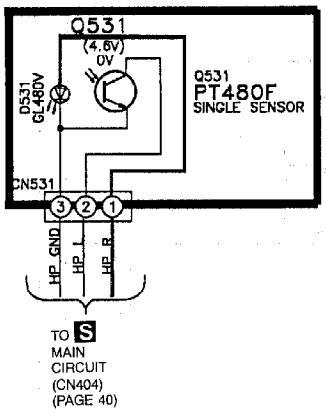
E OPERATION (2) CIRCUIT



J POWER CIRCUIT

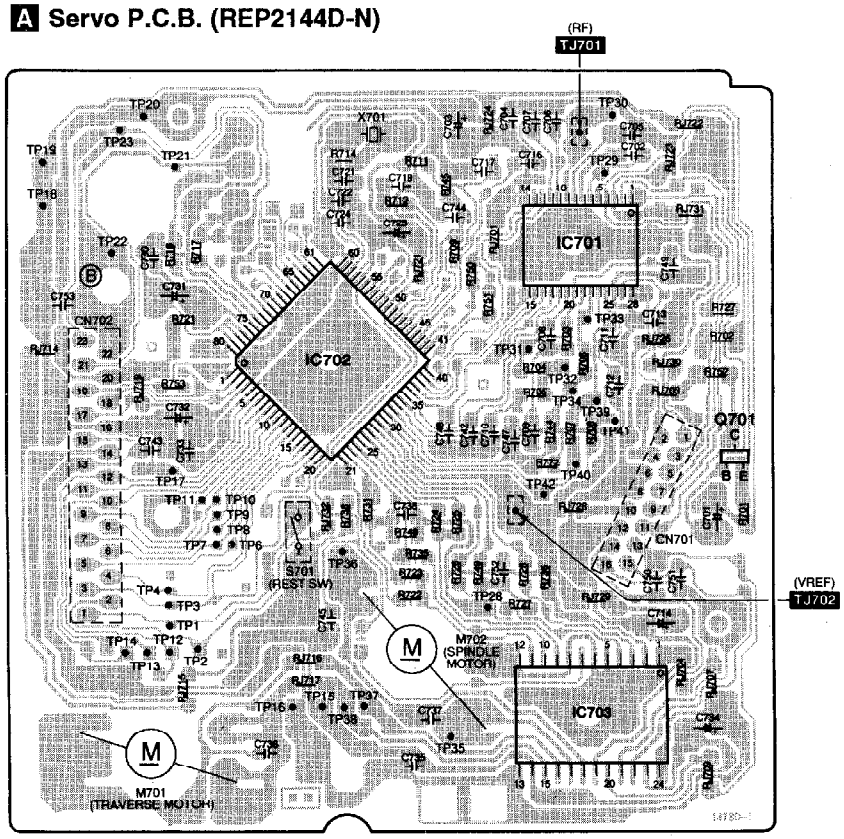


I PHOTO TR2 CIRCUIT

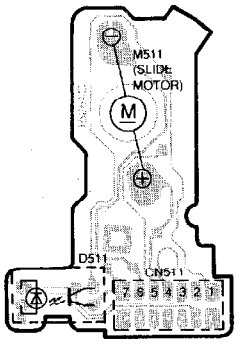


■ Printed Circuit Boards

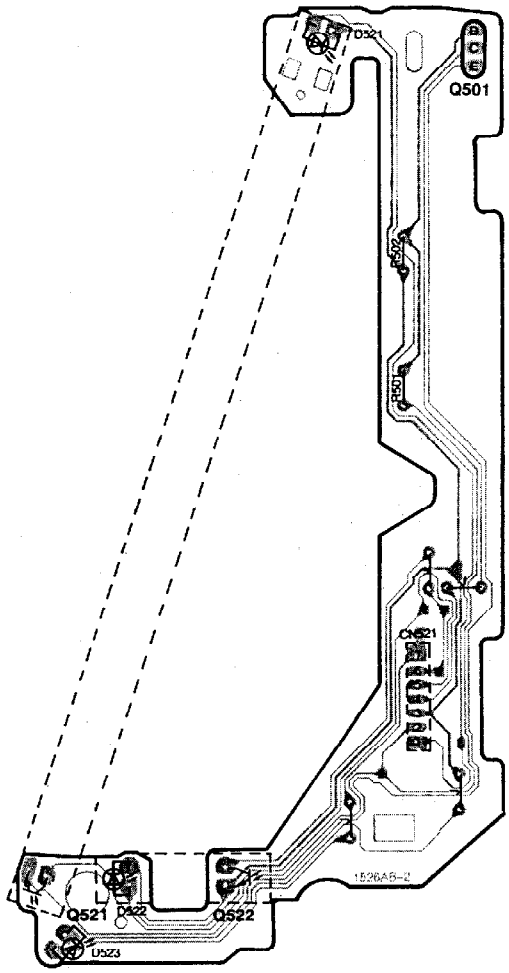
A Servo P.C.B. (REP2144D-N)



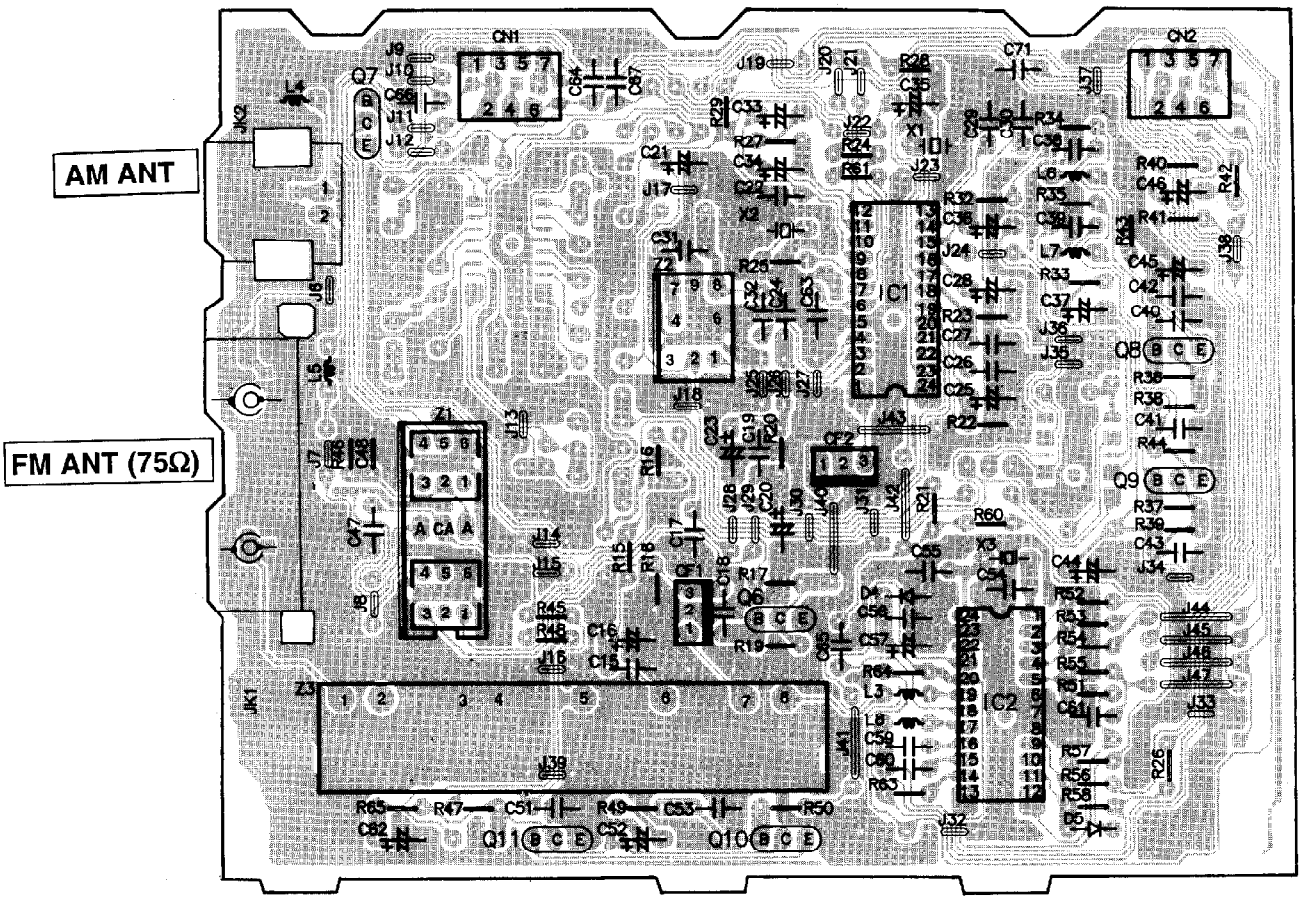
C Slide Motor P.C.B. (REP2219A-3N)



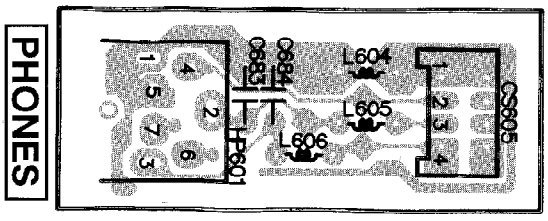
D Photo TR (1) P.C.B. (REP2219A-2N)



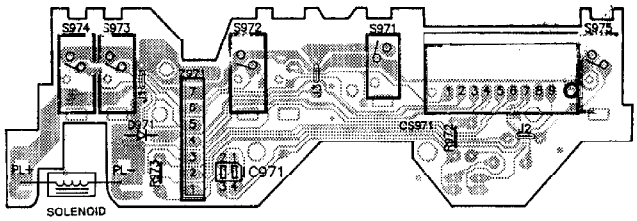
B Tuner P.C.B. (REP2000G)



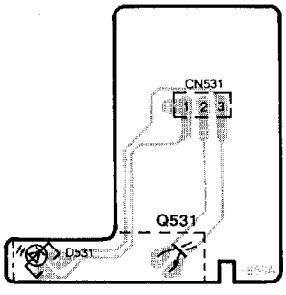
K Headphone P.C.B. (REP2353B)



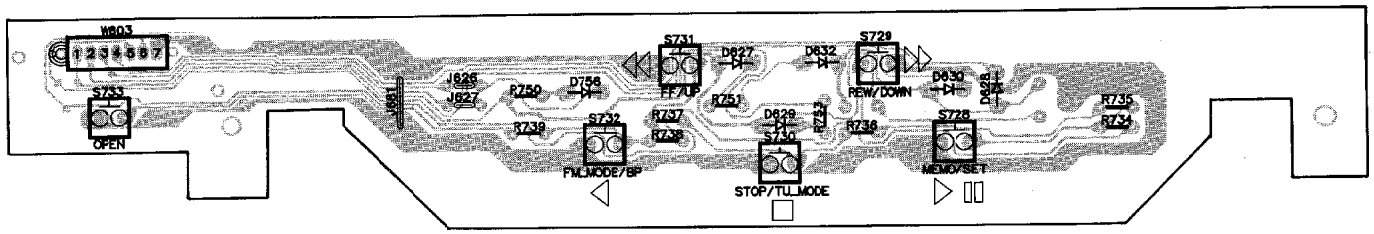
N Mechanism Deck P.C.B. (REPX0108)



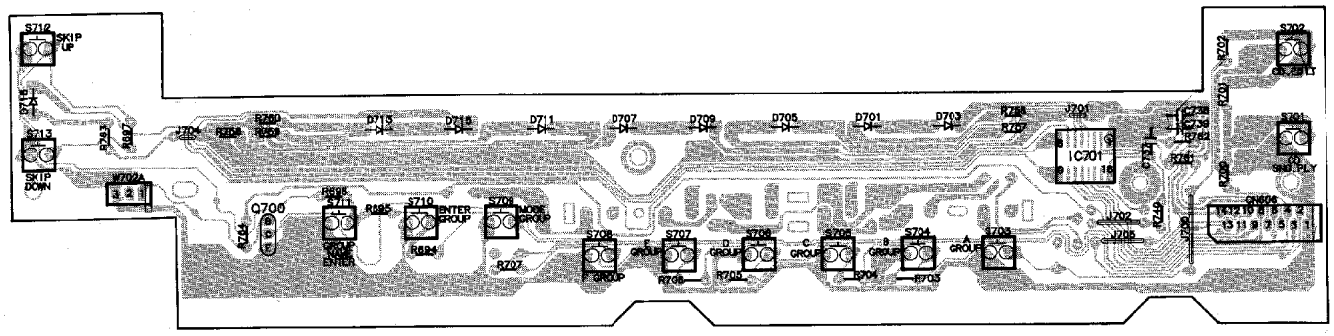
I Photo TR (2) P.C.B. (REP2348A-N)



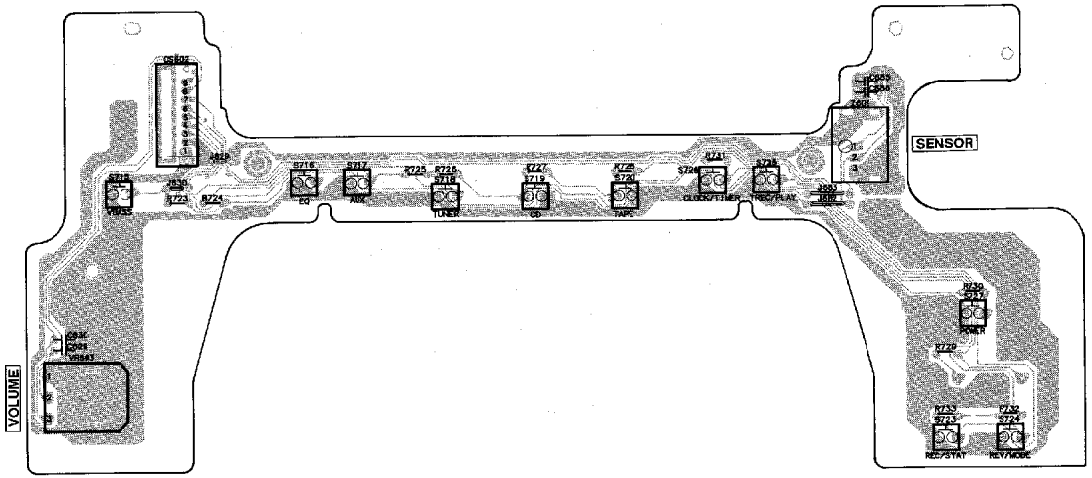
E Operation (2) P.C.B. (REP2353B)



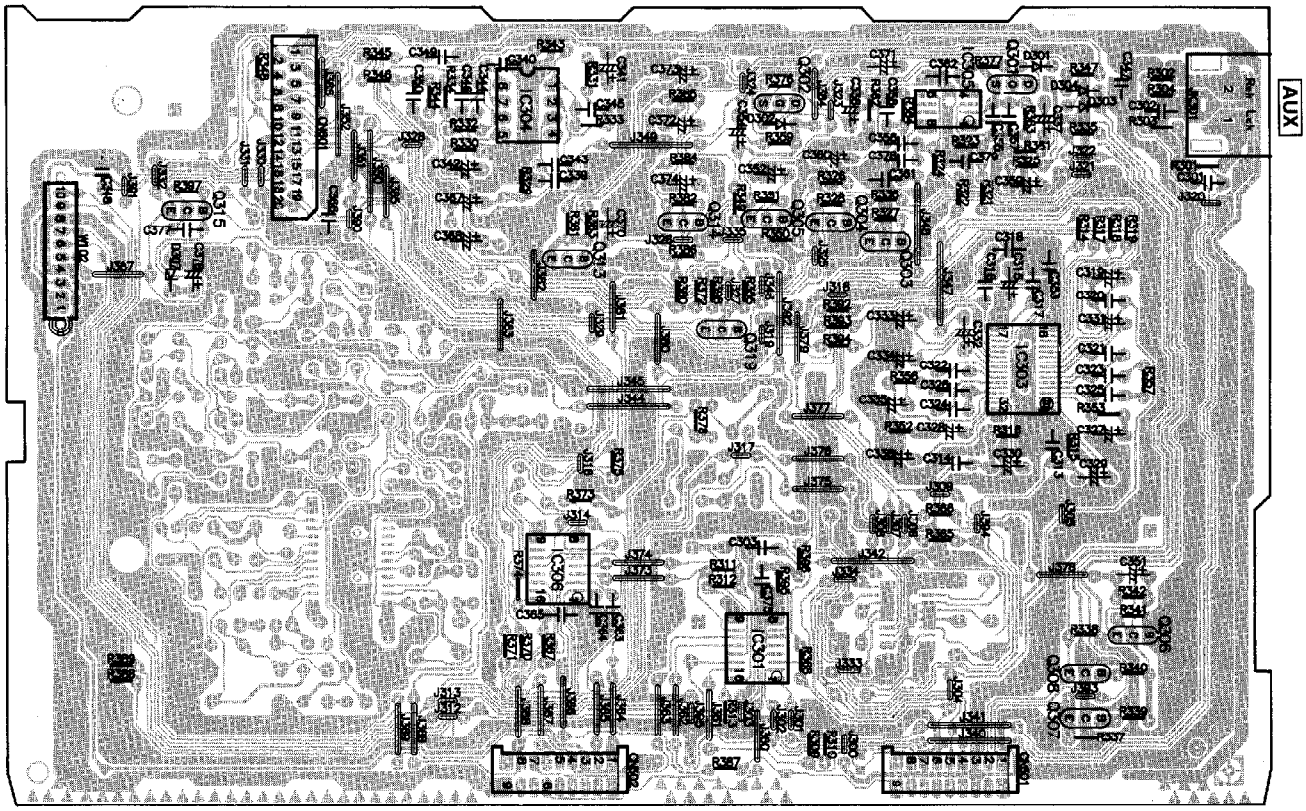
F Operation (1) P.C.B. (REP2352B)



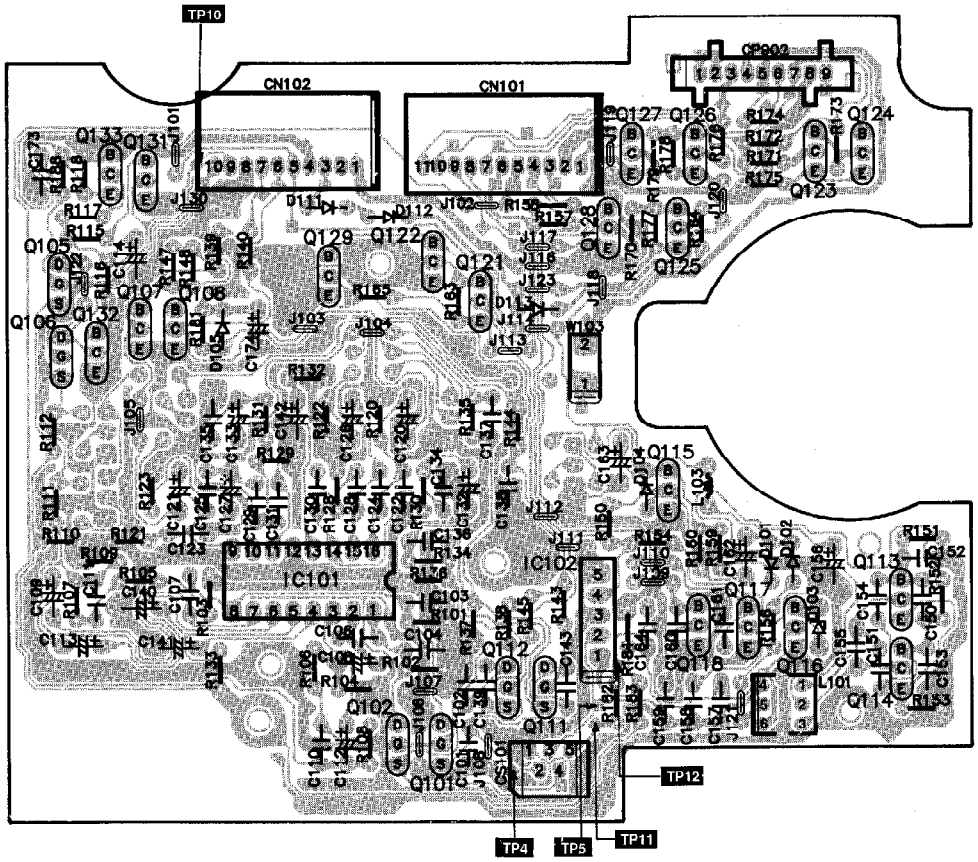
H Panel P.C.B. (REP2353B)



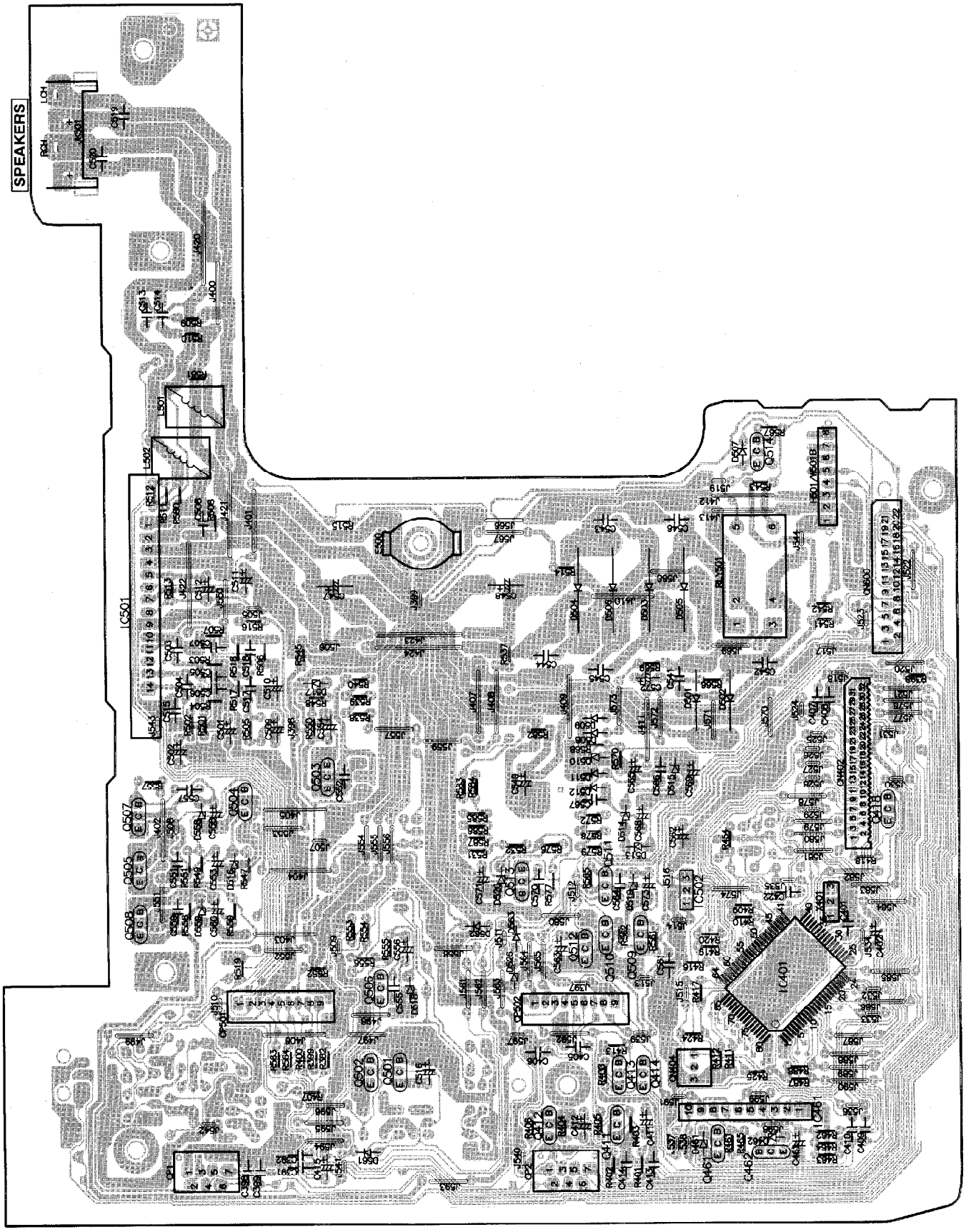
R Supporting P.C.B. (REP2350A)



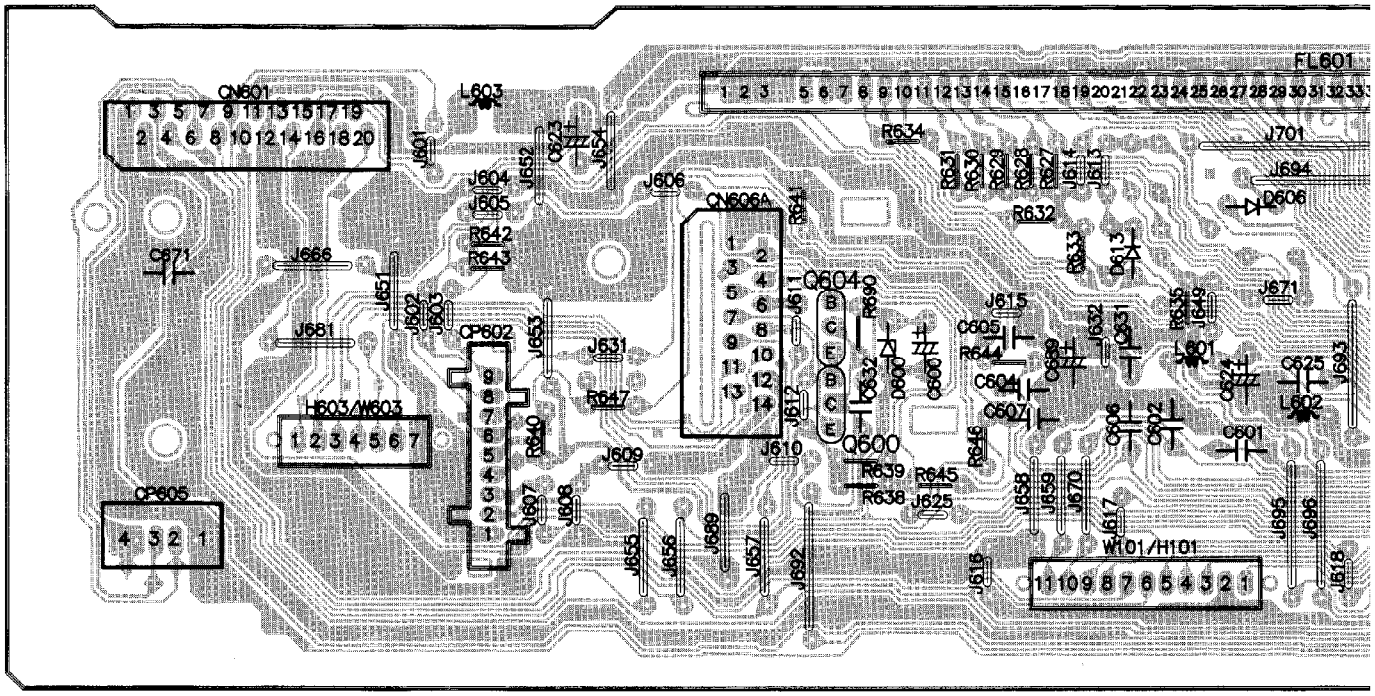
O Deck P.C.B. (REP2351A)



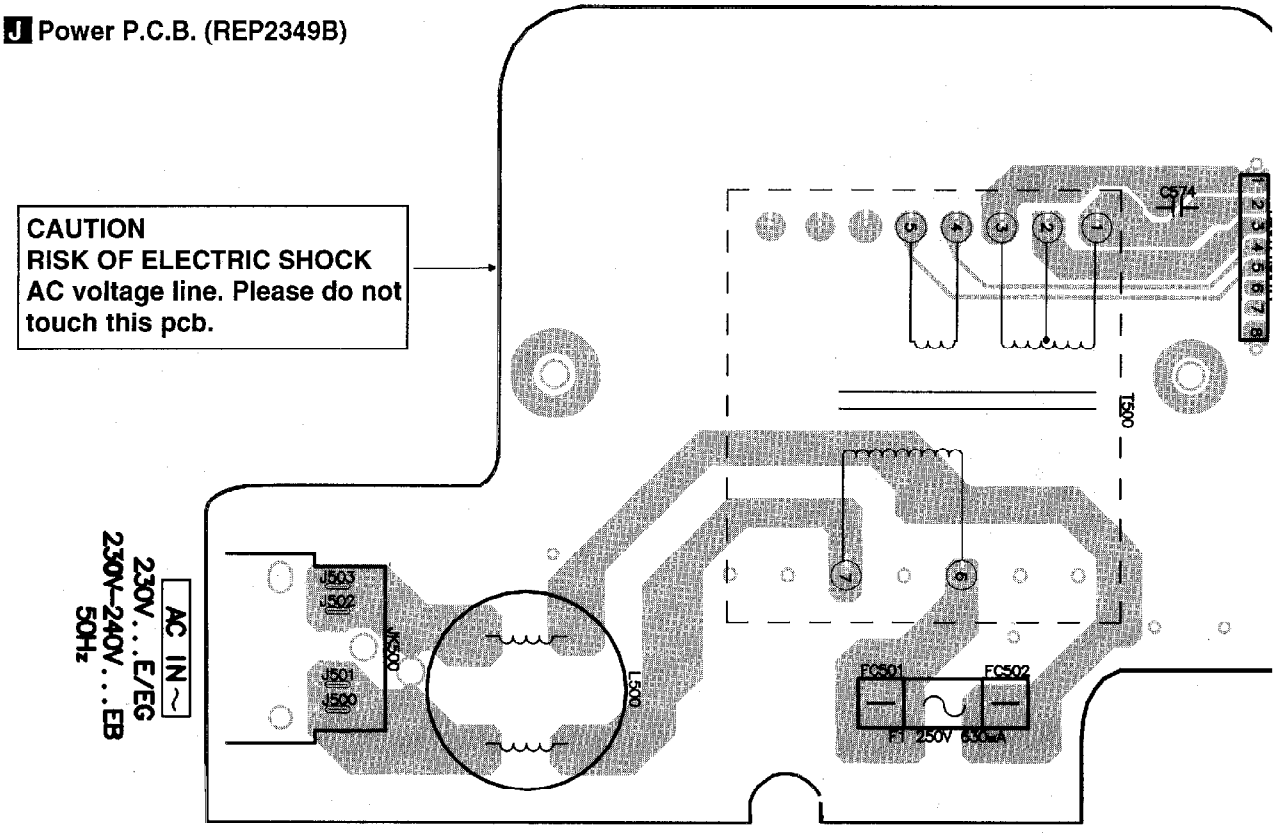
S Main P.C.B. (REP2349B)

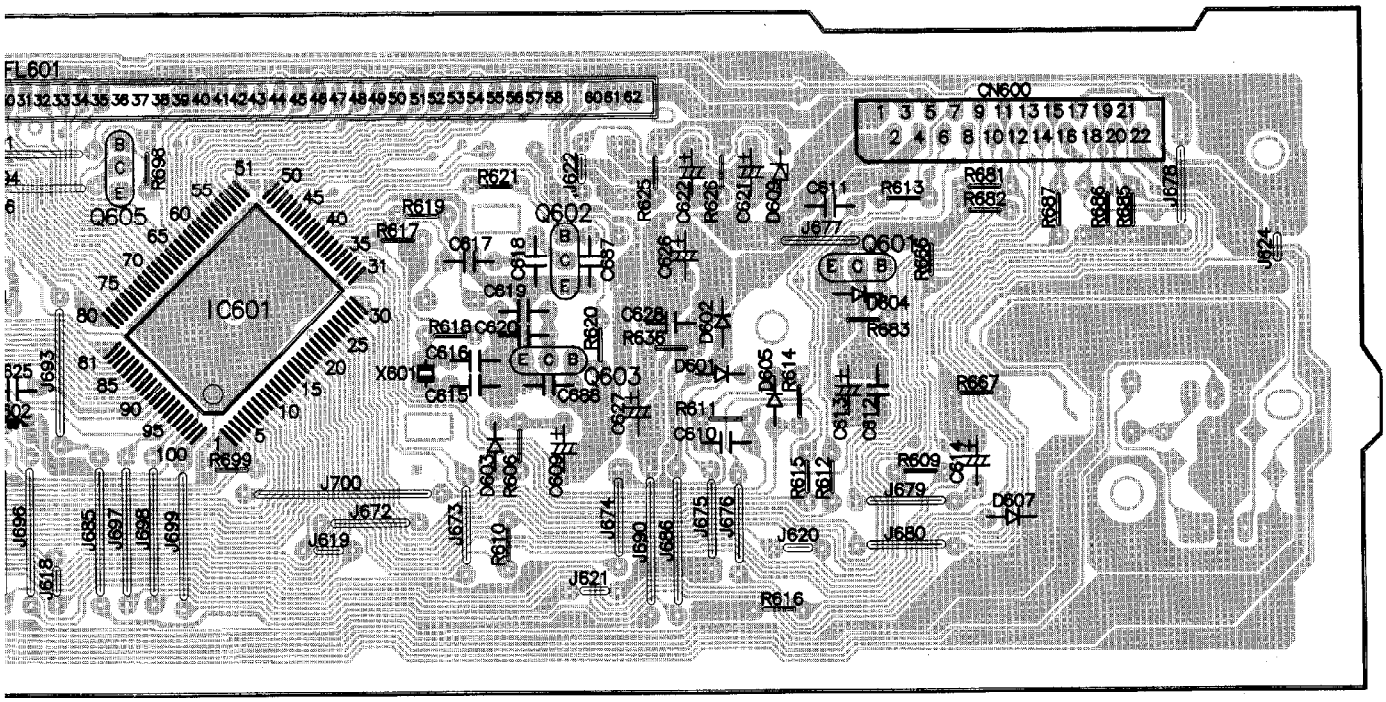


L Control P.C.B. (REP2353B)

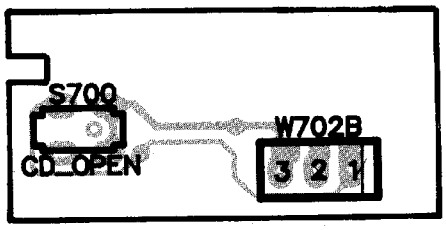


J Power P.C.B. (REP2349B)

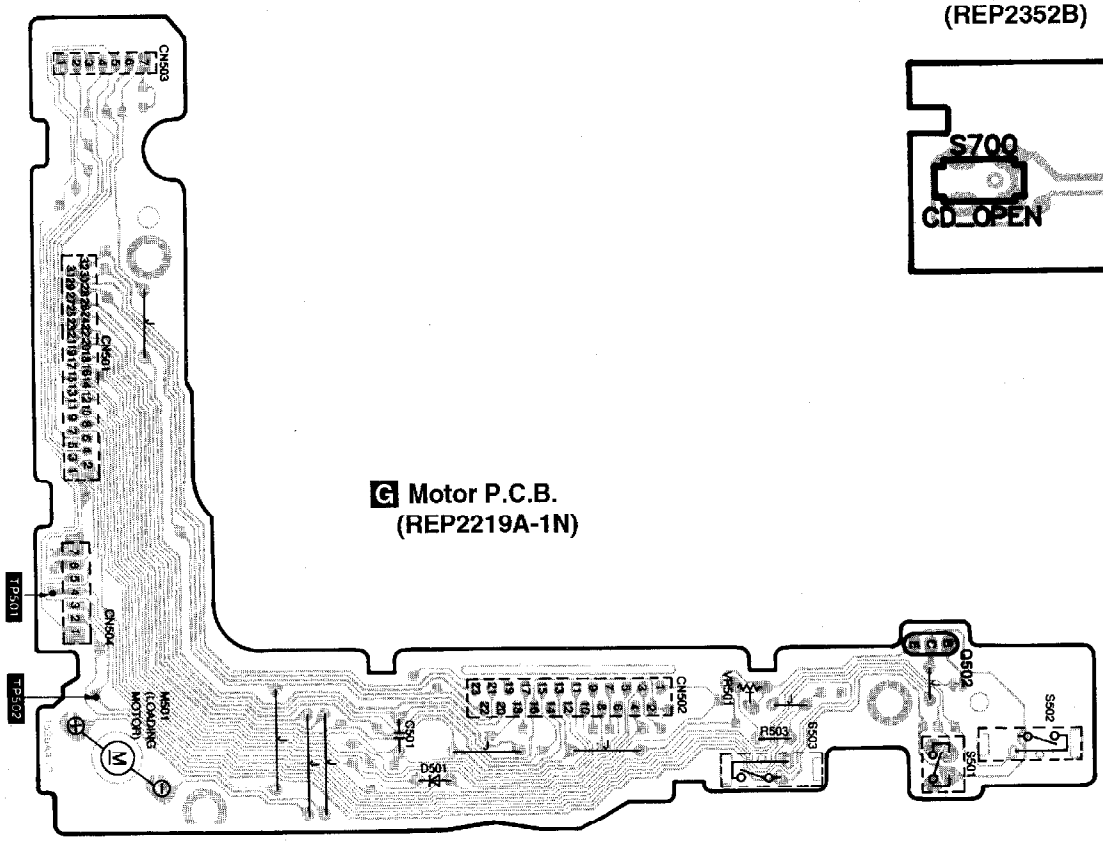




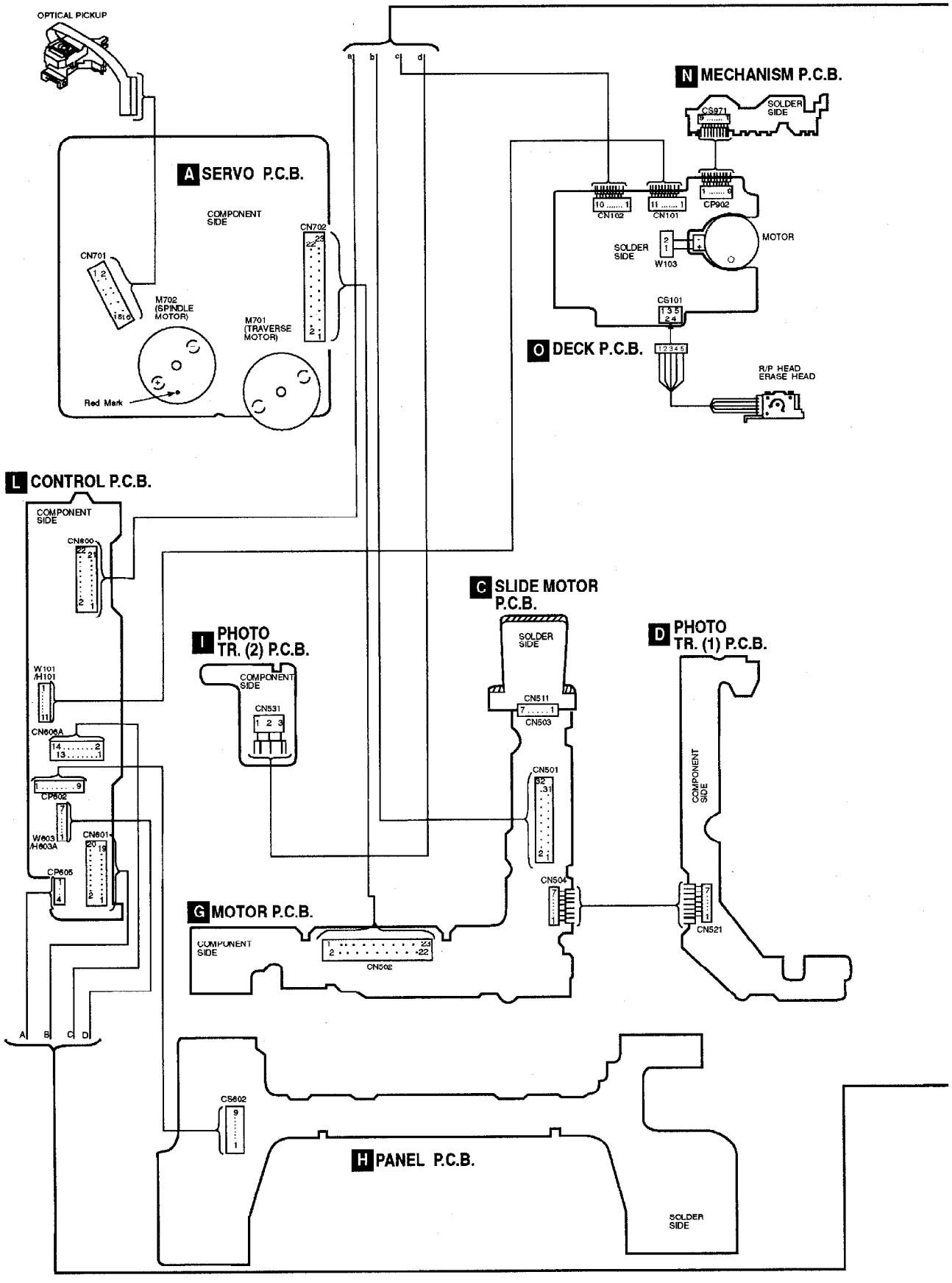
Q CD Switch P.C.B.
(REP2352B)

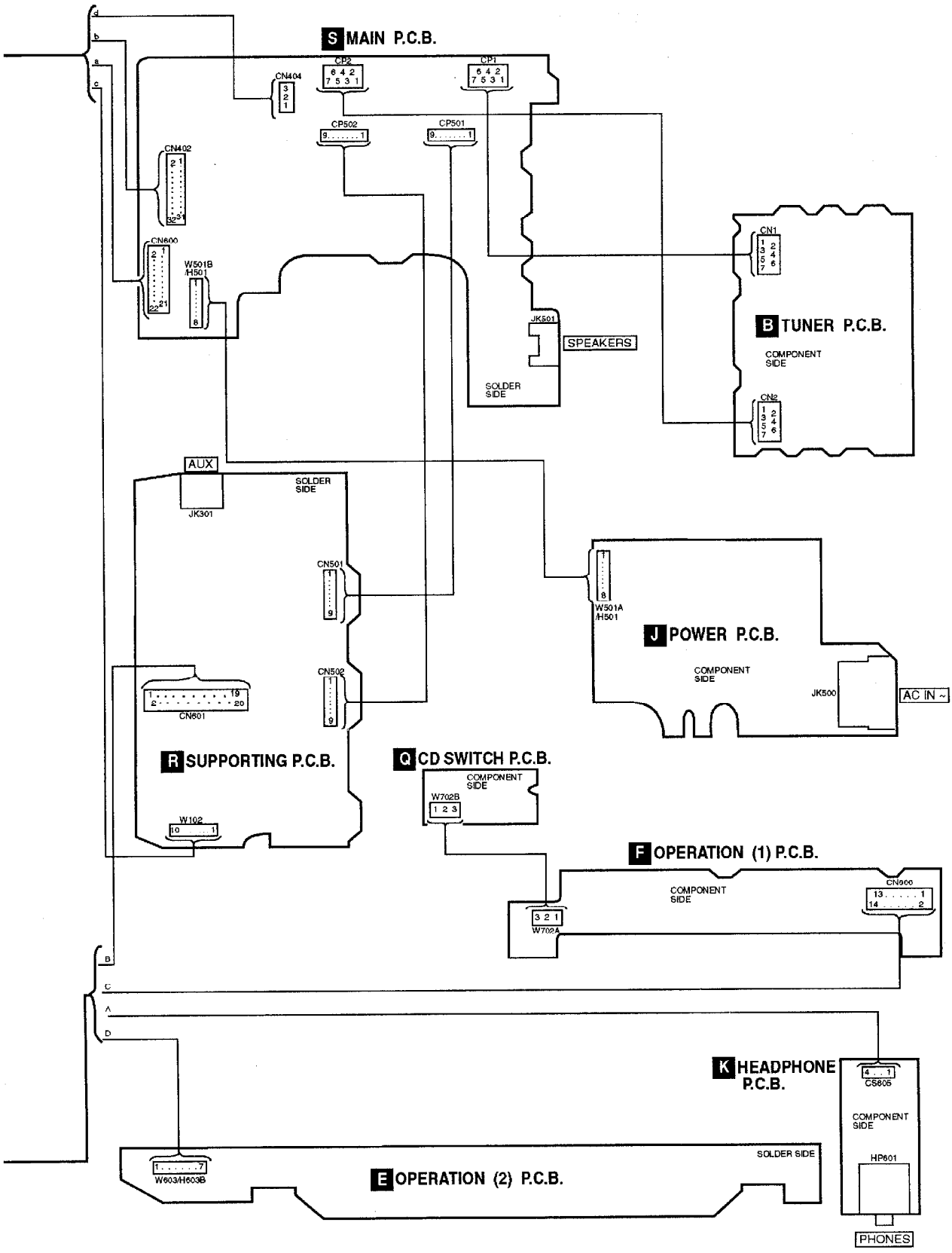


G Motor P.C.B.
(REP2219A-1N)

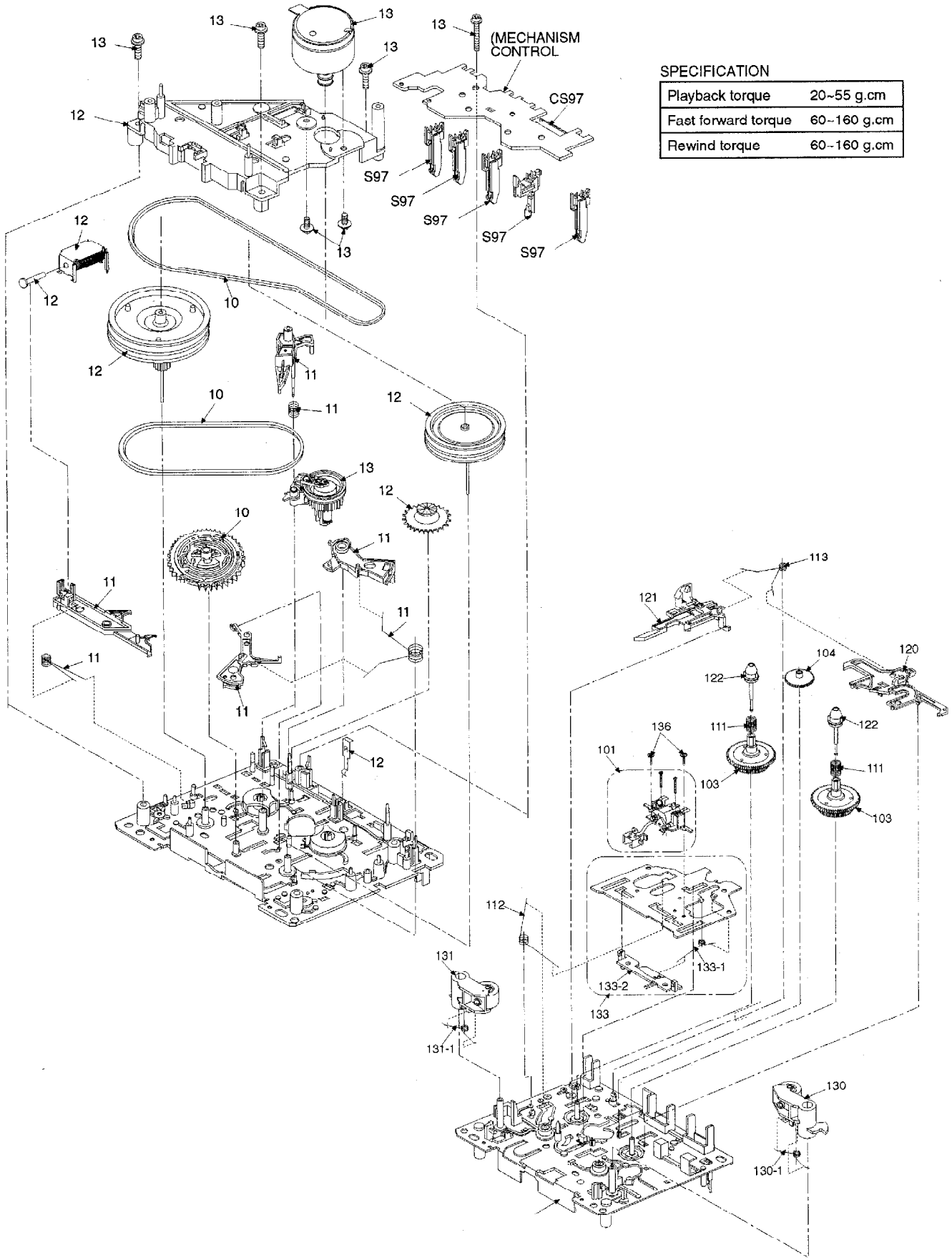


■ Wiring Connection Diagram




S MAIN P.C.B.
CN404
CP2
CP1
CP502
CP501
CN402
CN600
W501B
/H501
JK501
SPEAKERS
SOLDER SIDE
B TUNER P.C.B.
COMPONENT SIDE
CN1
CN2
AUX
JK301
SOLDER SIDE
CN501
CN502
CN601
W501A
/H501
J POWER P.C.B.
COMPONENT SIDE
JK500
AC IN ~
R SUPPORTING P.C.B.
W102
Q CD SWITCH P.C.B.
COMPONENT SIDE
W702B
F OPERATION (1) P.C.B.
COMPONENT SIDE
CN900
W702A
K HEADPHONE P.C.B.
CS805
COMPONENT SIDE
HP601
PHONES
W603/H603B
E OPERATION (2) P.C.B.
SOLDER SIDE

■ Mechanism Parts Location (RAA4105)



SPECIFICATION

Playback torque	20~55 g.cm
Fast forward torque	60~160 g.cm
Rewind torque	60~160 g.cm

■ Mechanism Parts List

Note : [M] in Remarks column indicates parts that are supplied by **MESA**.

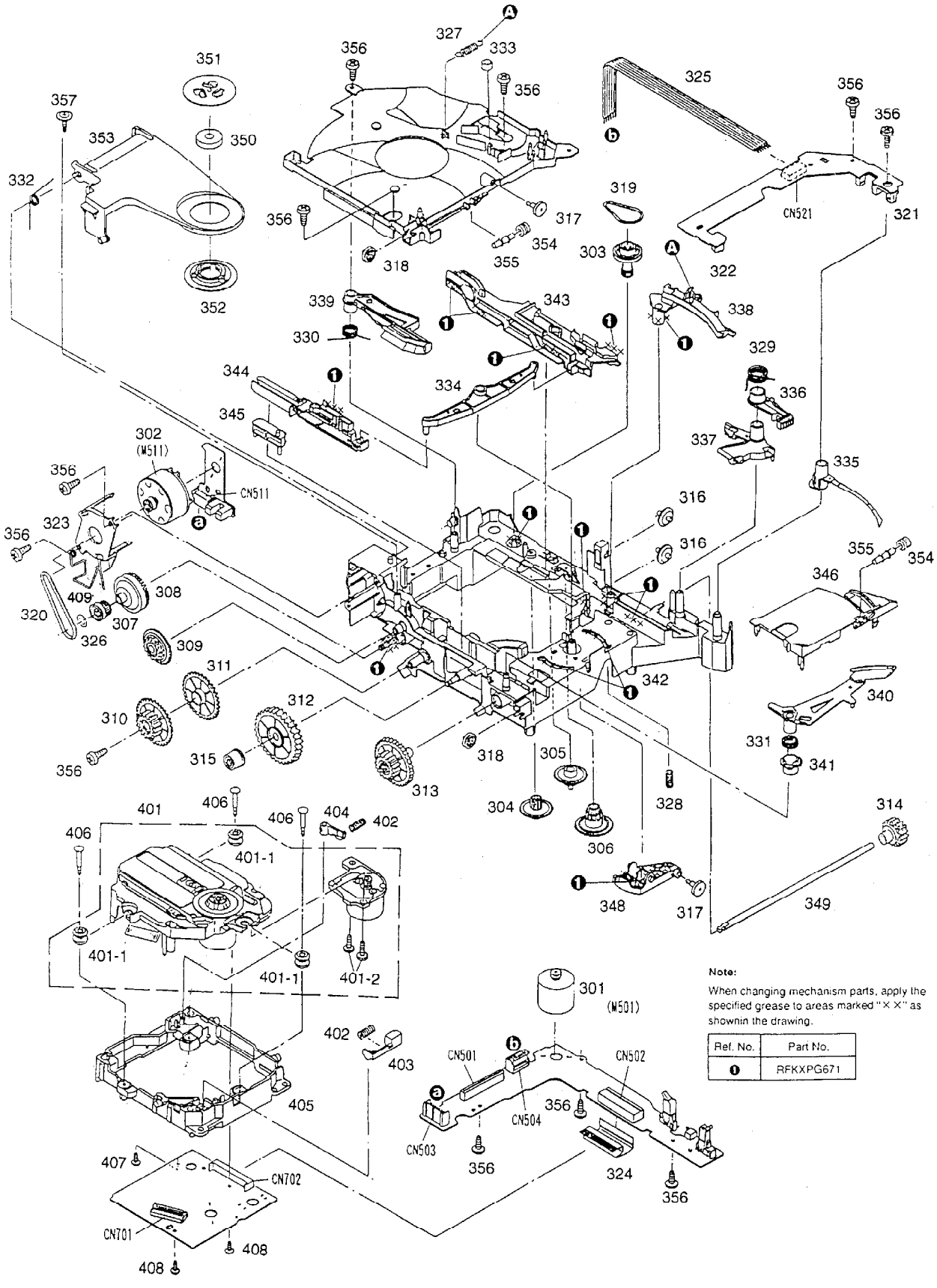
Ref No	Part No.	Part Name & Description	Remarks
		CASSETTE DECK	
101	RED0037	HEAD BLOCK ASS'Y	
103	RDG0300	REEL TABLE BASE	
104	RDG0301	GEAR	
105	RDK0026	GEAR	
107	RDV0033-1	BELT	
108	RDV0034	BELT	
110	RMB0312	SPRING	
111	RMB0400	REEL TABLE SPRING	
112	RMB0403	SPRING	
113	RMB0404	SPRING	
114	RMB0406	SPRING	
115	RMB0408	SPRING	
116	RML0370	LEVER	
117	RML0371	LEVER	
118	RML0372	ARM	
119	RML0374	LEVER	
120	RMM0131	LEVER	
121	RMM0133	LEVER	
122	RMQ0519	REEL TABLE HEAD	
123	RMS0398-1	SHAFT	
124	RSJ0003	PLUNGER	
125	RUS609ZC	SPRING	
126	RXF0049	FLYWHEEL ASS'Y	
127	RXF0050	FLYWHEEL ASS'Y	
128	RXG0040	GEAR	
129	RMK0283	PLATE	
130	RXL0124	PINCH ROLLER ASS'Y	
130-1	RMB0401	SPRING	
131	RXL0125	PINCH ROLLER ASS'Y	
131-1	RMB0402	SPRING	
132	RXL0126	GEAR	
133	RXQ0412	ROD	
133-1	RMB0405	SPRING	
133-2	RMM0132	ROD	
134	RFKPXES50GCK	MOTOR ASS'Y	[M]
135	RHD26022	SCREW	
136	XTW2+5L	SCREW	
137	XTW26+10S	SCREW	
138	XYC2+JF17	SCREW	

■ Loading Mechanism Parts List

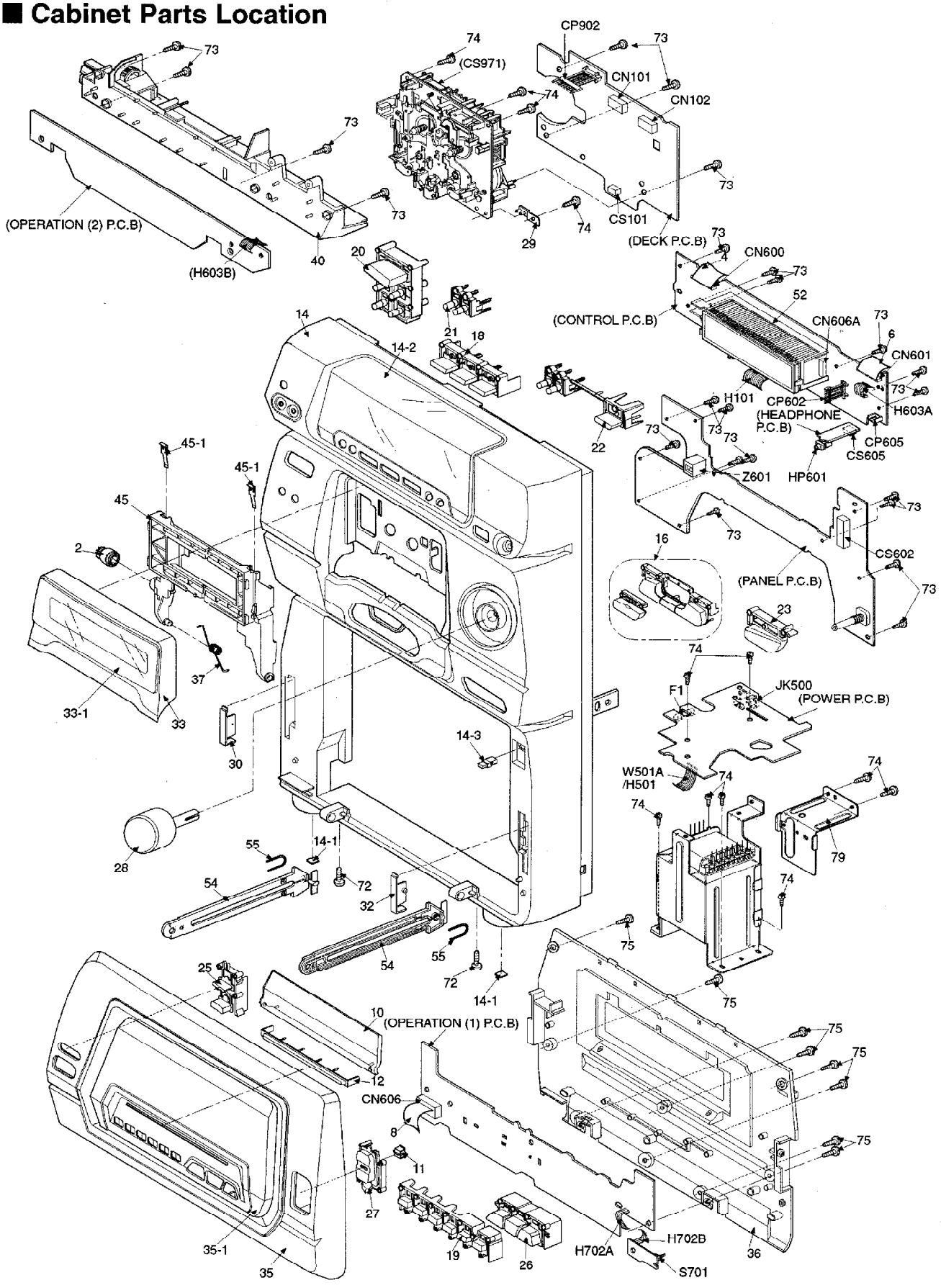
Note : [M] in Remarks column indicates parts that are supplied by **MESA**.

Ref No.	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK	
301	RFKPLMC50PAK	LOADING MTR(M501)ASS'Y	
302	RFKPLMC50PBK	SLIDE MOTOR(M511)ASS'Y	
303	RDG0336	PULLEY GEAR	
304	RDG0337	REDUCTION GEAR (A)	
305	RDG0338	REDUCTION GEAR (B)	
306	RDG0339	DRIVE GEAR	
307	RDG0340	SLIDE PULLEY GEAR	
308	RDG0341	COUNT RING	
309	RDG0342	SLIDE REDUCTION GEAR	
310	RDG0343	REAR SLIDE GEAR	
311	RDG0344	SLIDE GEAR (A)	
312	RDG0345	SLIDE GEAR (B)	
313	RDG0346	FRONT SLIDE GEAR	
314	RDG0347	LOWER SLIDE GEAR	
315	RDP0080	UPPER ROLLER	
316	RDP0081	LOWER ROLLER	
317	RDP0082	ROPE ROLLER (A)	
318	RDP0083	ROPE ROLLER (B)	
319	RDV0041	LOADING BELT	
320	RDV0046	SLIDE BELT	
321	RMN0357	SENOR HOLDER	
322	RMN0358	LED HOLDER	
323	RMN0356	MOTOR HOLDER	
324	REZ0916	FFC (23P)	
325	REZ0832	FLAT CABLE (7P)	
326	RHW21009	WASHER	
327	RMB0453	FEED LEVER SPRING	
328	RMB0463	LOCK C SPRING	
329	RME0194	SUB LEVER SPRING	
330	RME0195	SIZE LEVER SPRING	
331	RME0196	RETURN LEVER SPRING	
332	RME0197	CLAMP SPRING	
333	RMG0200	CUSHION RUBBER	
334	RML0411	CONNECTION LEVER	
335	RML0412	FRONT FEED LEVER	
336	RML0413	FEED SUB LEVER	
337	RML0414	GUIDE LEVER	
338	RML0415	REAR FEED LEVER	
339	RML0416	SIZE DETECTION LEVER	
340	RML0417	RETURN LEVER (A)	
341	RML0418	RETURN LEVER (B)	
342	RFKNLMC50PBK	MECHANISM BASE ASS'Y	
343	RMR0921-K	LOWER SLIDE PLATE	
344	RMR0922-K	UPPER SLIDE PLATE	
345	RMR0923-W	SLIDE SUPPORT PLATE	
346	RMR0924-K	DISC GUIDE (L)	
347	RMR0925-K	DISC GUIDE (R)	
348	RMR0927-K	ROLLER BASE	
349	RMS0519	CONNECTION SHAFT	
350	RHM245ZA	MAGNET	[M]
351	RMR0334	FIXED PLATE	[M]
352	RMR0761-W	CLAMPER	
353	RMR0926-K	CLAMPER PLATE	
354	RDP0091	DISC ROLLER	
355	RDP0092	GUIDE ROLLER	
356	XTBS26+10J	SCREW	
357	XTWS3+10T	SCREW	
401	RAE0150Z	TRAVERSE DECK ASS'Y	
401-1	SHGD113-1	FLOATING RUBBER	
401-2	SNSD38	SCREW	
402	RMB0455	FRONT SUPPORT SPRING	
403	RML0423	FRONT SUPPORT ARM	
404	RML0424	REAR SUPPORT ARM	
405	RMR0937-K	TRAVERSE CHASSIS	
406	RMS0123-1	TRAVERSE FIXED PIN	
407	XTN2+6G	SCREW	
408	XTV2+6G	SCREW	
409	RME0225	LOCK PLATE SPRING	

■ Loading Mechanism Parts Location


Note:
When changing mechanism parts, apply the specified grease to areas marked "× ×" as shownin the drawing.
Ref. No. | Part No.
❶ | RFKXPG671

■ Cabinet Parts Location



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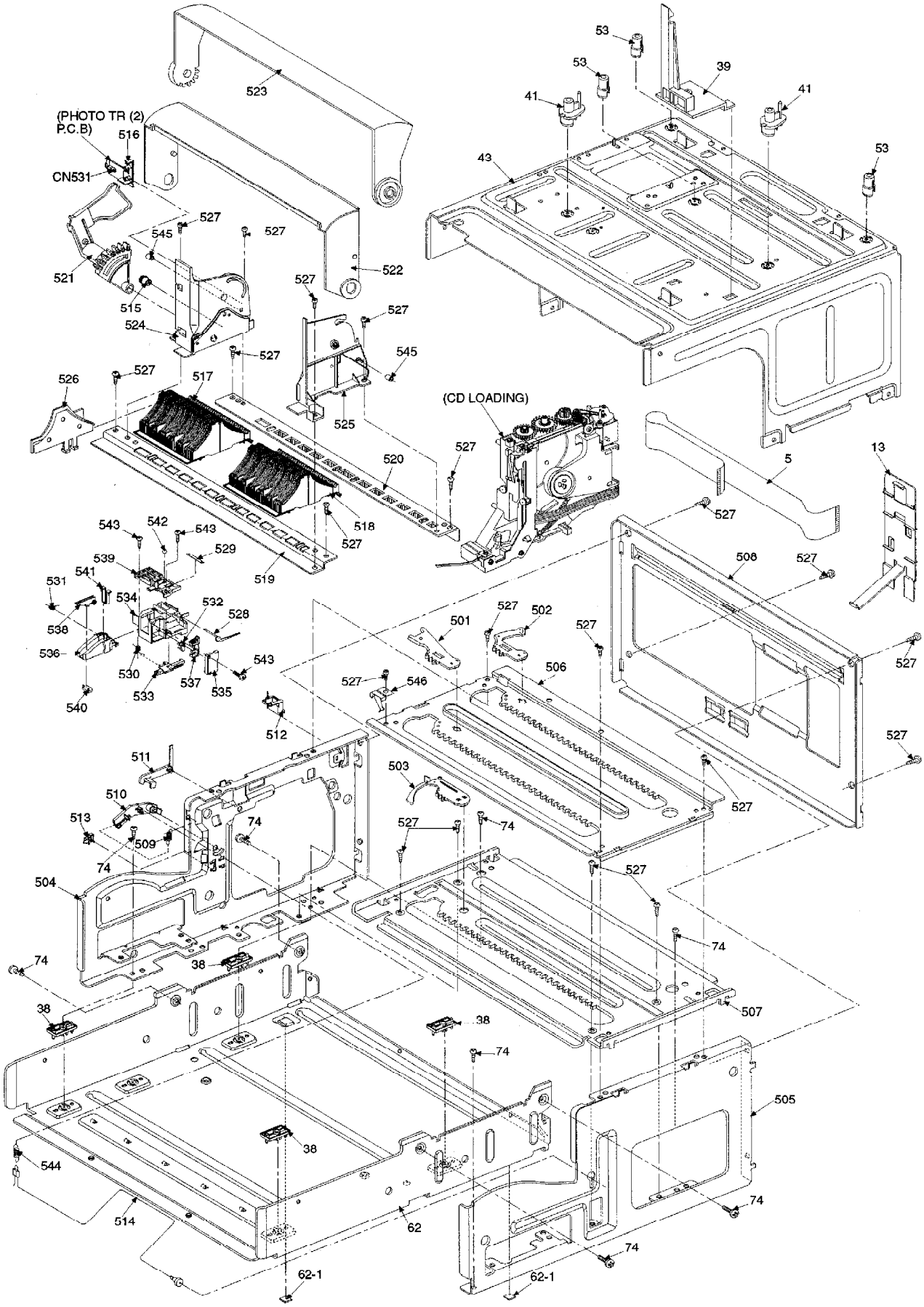
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(PHOTO TR (2) P.C.B)
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CN531
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(CD LOADING)
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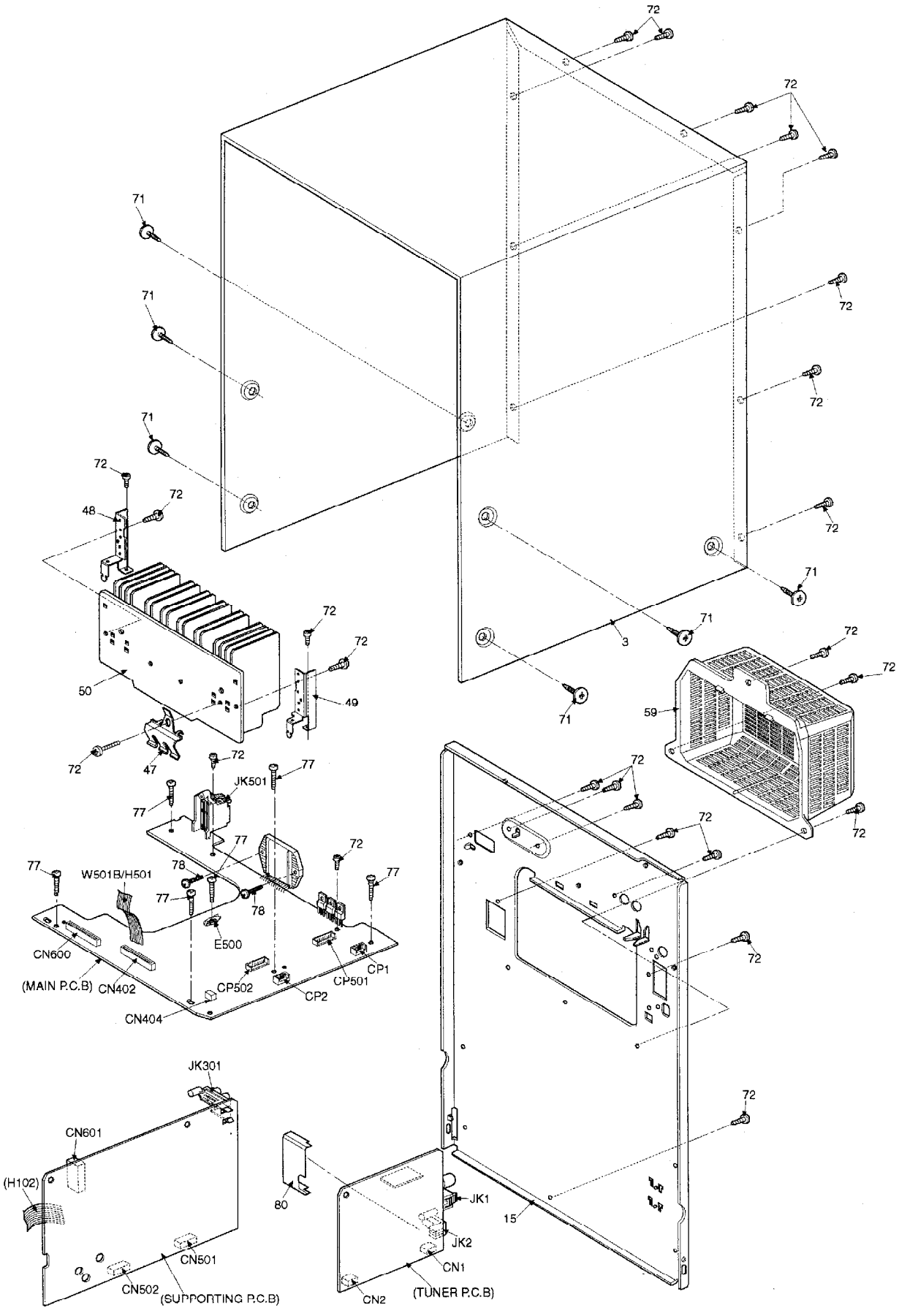
72
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JK501
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W501B/H501
E500
CN600
(MAIN P.C.B)
CN402
CN404
CP502
CP2
CP501
CP1
3
59
15
JK301
CN601
(H102)
CN501
CN502
(SUPPORTING P.C.B)
80
JK1
JK2
CN1
CN2
(TUNER P.C.B)

■ Replacement Parts List

Notes:
- Important safety notice :
  Components identified by ⚠ mark have special characteristics important for safety.
  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
  When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
- The parenthesized indications in the Remarks column specify the areas. (refer to the cover page for area.)
  Parts without these indications can be used for all areas.
- [M] indicates in Remarks column parts that are supplied by **MESA**.
- [VRD] indicates in Remarks column parts that are supplied by **Video Recorder Division**.
- The "(SF)" mark denotes the standard part.
- Remote Control Unit : Supply period for three years from terminal of production.
- **Warning:** This product uses a laser diode. Refer to caution statements on page 3.

ACHTUNG :
- Die lasereinheit nicht zerlegen.
- Die lasereinheit darf nur gegen eine vom hersteller spezifizierte einheit ausgetauscht werden.

Ref No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
2	RDG0129	DAMPER GEAR	[M]
3	RKM0318-K	CABINET	[M]
4	REE0698	22P FFC	[M]
5	REE0697	32P FFC	[M]
6	REE0699	20P FFC	[M]
8	REE0702	14P FFC	[M]
10	RGL0312-Q	CD LIGHTING PLATE	[M]
11	RGL0313-Q	CD LIGHTING CHIP	[M]
12	RGL0326-Q	CD LIGHTING PIECE	[M]
13	RMR0950-K	FFC HOLDER	
14	RFKGCH64MEK1	FRONT PANEL ASS'Y	[M]
14-1	RKA0059-K	LEG RUBBER	[M]
14-2	RKW0429-V	FL WINDOW	[M]
14-3	RMQ0215A	NS RATCH	
15	RGR0232B-K	REAR PANEL	[M](E,EG)
15	RGR0232B-L	REAR PANEL	[M](EB)
16	RGZX0024-K	MAIN CONTROL BUTTON	[M]
18	RGU1378-K	SELECT BUTTON	[M]
19	RGU1408-K	FILE BUTTON	[M]
20	RGU1399A-K	POWER BUTTON	[M]
21	RGU1403-K	TUNER BUTTON (B)	[M]
22	RGU1404-K	TUNER BUTTON (C)	[M]
23	RGU1400-K	OPEN BUTTON	[M]
25	RGU1411-K	CD BUTTON (A)	[M]
26	RGU1412-K	CD BUTTON (B)	[M]
27	RGU1413-K	CD BUTTON (C)	[M]
28	RGW0249-K	MAIN VOL KNOB	[M]
29	RMQ0630	CASS. MECHA SUPPORT	[M]
30	RKQ0193-K	SIDE GRIL (L)	
32	RKQ0194-K	SIDE GRIL (R)	
33	RFKLCH64MPK	CASS. LID ASS'Y	[M]
33-1	RKW0448-Q	CASSETTE WINDOW	[M]
35	RFKGCH64MPK2	CD PANEL ASS'Y	[M]
35-1	RKW0430-Q	CD WINDOW	[M]
36	RFKHCH94MPK1	CD REAR PANEL ASS'Y	[M]
37	RMB0474	CASS. OPEN SPRING	
38	RMN0366	CD MECHA SUPPORT	[M]
39	RMN0367-1	MAIN PCB SUPPORT	[M]
40	RMQ0601	DECK MECHA FLAME	[M]
41	RMR0741-X	PCB SUPPORT (PIN)	[M]
43	RMK0311	SUB CHASSIS	[M]
45	RFKLACH330AK	CASS. HOLDER ASS'Y	[M]
45-1	RUS757ZAA	CASS. HALF SPRING	[M]
47	RMC0238	TRANSISTOR HOLDER	
48	RMQ0575	HEAT SINK SUPPORT(L)	[M]
49	RMQ0576	HEAT SINK SUPPORT(R)	[M]
50	RXX0102	HEAT SINK UNIT	[M]
52	RMN0076	FL HOLDER	[M]
53	SHE187-4	PCB SUPPORT(W/O PIN)	[M]
54	RKJ0016	SIDE STAY	
55	RME0218	STAY SPRING	[M]
59	RMV0085A	H.S. COVER	[M]
62	RFKJCH94MPK	BOTTOM CHASSIS ASS'Y	[M]
62-1	RKA0059-K	LEG RUBBER	[M]
71	RHD30007	SCREW (TRANS)	
72	XTBS3+8JFZ1	SCREW(H. SINK/CAB.)	
73	XTBS26+10J	SCREW(PANEL PCB)	
74	XTB3+10JFZ	SCREW(TRANSFORMER)	
75	XTB3+8JFZ	SCREW(CD REAR PANEL)	
77	XTB3+20J	SCREW(POWER PCB)	
78	XTW3+15T	SCREW(POWER IC)	
79	RMA0932	TRANS ANGLE	
80	RSC0403	TUNER SHIELD PLATE	[M]
		INTEGRATED CIRCUITS	
IC1	LA1832A	IC, IF/MPX	
IC2	LC7218	IC, PLL	
IC101	TA8142AP	IC, PB/REC PRE-AMP	
IC102	BA7755A	IC, SWITCH	
IC301	BU4052BCF-E2	IC, ANALOG SW	
IC303	BH3854AFS-E2	IC, SOUND PROCESSOR	[M]
IC304	M5218AP	IC, BUFFER AMP	
IC305	BA4558FDXE2	IC, OP AMP	[M]
IC306	BU2090F-E2	IC, IO EXPANDER	[M]
IC401	UPD78043A042	IC, CHANGER U-COM	[M]
IC461	BA6247N	IC, MOTOR DRIVE	
IC501	RSN35H1	IC, HIC	⚠
IC502	AN78M05	IC, AMP	
IC601	M38197MA131F	IC, MICROPROCESSOR	[M]
IC701	BU2090F-E2	IC, IO EXPANDER	[M]
IC971	0N2180RLC	IC, HALL	
		TRANSISTORS	
Q6	2SC2787LTA	TRANSISTOR	
Q7	RVTDTA143XST	TRANSISTOR	
Q8	2SC1740SSTA	TRANSISTOR	
Q9	2SC1740SSTA	TRANSISTOR	
Q10	2SC2785FETA	TRANSISTOR	
Q11	2SC2785FETA	TRANSISTOR	
Q12	2SC2787LTA	TRANSISTOR	
Q13	2SC1740SSTA	TRANSISTOR	
Q14	2SC1740SSTA	TRANSISTOR	
Q15	2SC1740SSTA	TRANSISTOR	
Q101	2SJ40CDTA	TRANSISTOR	
Q102	2SJ40CDTA	TRANSISTOR	
Q105	2SJ40CDTA	TRANSISTOR	
Q106	2SJ40CDTA	TRANSISTOR	
Q107	2SD1020HTA	TRANSISTOR	[M]
Q108	2SD1020HTA	TRANSISTOR	[M]
Q111	2SJ40CDTA	TRANSISTOR	
Q112	2SJ40CDTA	TRANSISTOR	
Q113	2SD1302STA	TRANSISTOR	
Q114	2SD1302STA	TRANSISTOR	
Q115	2SC2785FTA	TRANSISTOR	
Q116	2SD1302STA	TRANSISTOR	
Q117	2SC2784FTA	TRANSISTOR	[M]
Q118	2SC2784FTA	TRANSISTOR	[M]
Q121	BN1L3NTA	TRANSISTOR	[M]
Q122	BA1L4ZTA	TRANSISTOR	[M]
Q123	2SC2785FTA	TRANSISTOR	

Ref No.	Part No.	Part Name & Description	Remarks
Q124	2SC2785FTA	TRANSISTOR	
Q125	2SB621RTA	TRANSISTOR	
Q126	2SB621RTA	TRANSISTOR	
Q127	RVTDTC124EST	TRANSISTOR	[M]
Q128	RVTDTC124EST	TRANSISTOR	[M]
Q129	BA1L4ZTA	TRANSISTOR	[M]
Q131	2SD1020HTA	TRANSISTOR	[M]
Q132	2SD1020HTA	TRANSISTOR	[M]
Q133	BN1L3NTA	TRANSISTOR	[M]
Q301	2SK301QTA	TRANSISTOR	[M]
Q302	2SK301QTA	TRANSISTOR	[M]
Q303	2SD1020HTA	TRANSISTOR	[M]
Q304	2SD1020HTA	TRANSISTOR	[M]
Q305	RVTDTA114EST	TRANSISTOR	
Q306	RVTDTA114EST	TRANSISTOR	
Q307	2SD1450STA	TRANSISTOR	
Q308	2SD1450STA	TRANSISTOR	
Q313	2SC2785FETA	TRANSISTOR	
Q314	2SC2785FETA	TRANSISTOR	
Q315	2SC2001KTA	TRANSISTOR	
Q319	RVTDTC124EST	TRANSISTOR	[M]
Q411	2SD1020HTA	TRANSISTOR	[M]
Q412	2SD1020HTA	TRANSISTOR	[M]
Q413	RVTDTA124EST	TRANSISTOR	
Q414	RVTDTC124EST	TRANSISTOR	[M]
Q418	RVTDTA114EST	TRANSISTOR	
Q461	RVTDTC114TST	TRANSISTOR	
Q462	RVTDTC124EST	TRANSISTOR	[M]
Q501	2SC2785FETA	TRANSISTOR	
Q502	2SC2785FETA	TRANSISTOR	
Q503	2SB1185E	TRANSISTOR	⚠
Q504	2SA933SSTA	TRANSISTOR	⚠
Q505	2SD1762E	TRANSISTOR	[M]⚠
Q506	2SC2001KTA	TRANSISTOR	⚠
Q507	2SD1762E	TRANSISTOR	[M]⚠
Q508	2SD1762E	TRANSISTOR	[M]⚠
Q509	2SB1185E	TRANSISTOR	⚠
Q510	RVTDTC124EST	TRANSISTOR	[M]
Q511	2SC2785FETA	TRANSISTOR	⚠
Q512	RVTDTC114TST	TRANSISTOR	
Q513	2SD2037ETA	TRANSISTOR	[M]⚠
Q514	2SC2785FETA	TRANSISTOR	
Q600	2SC2001KTA	TRANSISTOR	
Q601	BA1F4MTA	TRANSISTOR	[M]
Q602	2SC2785FETA	TRANSISTOR	
Q603	2SC2785FETA	TRANSISTOR	
Q604	2SC2785FETA	TRANSISTOR	
Q605	2SC2785FETA	TRANSISTOR	

Ref No.	Part No.	Part Name & Description	Remarks
Q700	RVTDTC114EST	TRANSISTOR	
		DIODES	
D4	MTZJ5R1CTA	DIODE	[M]
D5	RVD1SS133TA	DIODE	
D101	RVD1SS133TA	DIODE	
D102	RVD1SS133TA	DIODE	
D103	MTZJ3R6BTA	DIODE	[M]
D104	RVD1SS133TA	DIODE	
D105	RVD1SS133TA	DIODE	
D111	1D3E	DIODE	[M]
D112	1D3E	DIODE	[M]
D113	1D3E	DIODE	[M]
D301	RVD1SS133TA	DIODE	
D302	RVD1SS133TA	DIODE	
D303	RVD1SS133TA	DIODE	
D304	RVD1SS133TA	DIODE	
D307	MTZJ9R1CTA	DIODE	
D461	MTZJ7R5CTA	DIODE	
D462	MTZJ5R6BTA	DIODE	
D501	RL154M11	DIODE	⚠
D502	RL154M11	DIODE	⚠
D503	1N5402BM21	DIODE	⚠
D504	1N5402BM21	DIODE	⚠
D505	1N5402BM21	DIODE	⚠
D506	1N5402BM21	DIODE	⚠
D507	RVD1SS133TA	DIODE	
D508	1D3E	DIODE	[M]
D509	1D3E	DIODE	[M]
D510	MTZJ5R1BTA	DIODE	⚠
D511	1D3E	DIODE	[M]
D512	1D3E	DIODE	[M]
D513	MTZJ10BTA	DIODE	
D514	MTZJ10BTA	DIODE	
D515	MTZJ10BTA	DIODE	
D516	MTZJ15CTA	DIODE	⚠
D517	MTZJ15CTA	DIODE	
D518	MTZJ8R2CTA	DIODE	⚠
D519	MTZJ5R6CTA	DIODE	⚠
D520	MTZJ6R2CTA	DIODE	⚠
D526	MTZJ12BTA	DIODE	
D558	MTZJ12BTA	DIODE	
D559	MTZJ10BTA	DIODE	⚠
D561	RVD1SS133TA	DIODE	
D562	RVD1SS133TA	DIODE	
D563	RVD1SS133TA	DIODE	
D600	MTZJ7R5CTA	DIODE	

Ref No.	Part No.	Part Name & Description	Remarks
D601	1SS291TA	DIODE	
D602	1SS291TA	DIODE	
D603	RVD1SS133TA	DIODE	
D604	RVD1SS133TA	DIODE	
D605	RVD1SS133TA	DIODE	
D606	1SS291TA	DIODE	
D607	RVD1SS133TA	DIODE	
D609	MTZJ6R8BTA	DIODE	
D613	MA167TA	DIODE	
D627	SLR-325MC	DIODE	
D628	SLR-325MC	DIODE	
D629	SLR-325MC	DIODE	
D630	SLR-325MC	DIODE	
D632	SLR-325MC	DIODE	
D701	LNJ301MPUJAD	DIODE	
D703	LNJ301MPUJAD	DIODE	
D705	LNJ301MPUJAD	DIODE	
D707	LNJ301MPUJAD	DIODE	
D709	LNJ301MPUJAD	DIODE	
D711	LNJ301MPUJAD	DIODE	
D713	LNJ301MPUJAD	DIODE	
D715	LNJ301MPUJAD	DIODE	
D716	SLR-325VC	DIODE	[M]
D756	SLR-325MC	DIODE	
D971	MA165TA	DIODE	
		VARIABLE RESISTOR	
VR603	RRV16B24104B	VR, JOG VOLUME	
		SWITCHES	
S700	RSH1A91ZA-A	SW, CD	
S701	EVQ21405R	SW, SING. PLAY	
S702	EVQ21405R	SW, CD_EDIT	
S703	EVQ21405R	SW, GROUP_A	
S704	EVQ21405R	SW, GROUP_B	
S705	EVQ21405R	SW, GROUP_C	
S706	EVQ21405R	SW, GROUP_D	
S707	EVQ21405R	SW, GROUP_E	
S708	EVQ21405R	SW, GROUP_F	
S709	EVQ21405R	SW, GROUP MODE	
S710	EVQ21405R	SW, GROUP ENTER	
S711	EVQ21405R	SW, GR ENTER NAME	
S712	EVQ21405R	SW, DISC SKIP UP	
S713	EVQ21405R	SW, DISC SKIP DOWN	
S715	EVQ21405R	SW, V. BASS	
S716	EVQ21405R	SW, EQ. SPACE	

Ref No.	Part No.	Part Name & Description	Remarks
S717	EVQ21405R	SW, AUX	
S718	EVQ21405R	SW, TUNER	
S719	EVQ21405R	SW, CD	
S720	EVQ21405R	SW, TAPE	
S723	EVQ21405R	SW, REC. START	
S724	EVQ21405R	SW, REV. MODE	
S725	EVQ21405R	SW, T. REC/PLAY	
S726	EVQ21405R	SW, CLK/TIMER	
S727	EVQ21405R	SW, POWER	
S728	EVQ21405R	SW, MEM/SET	
S729	EVQ21405R	SW, REV/DOWN	
S730	EVQ21405R	SW, STOP/TU MODE	
S731	EVQ21405R	SW, FF/UP	
S732	EVQ21405R	SW, FM MODE/BP	
S733	EVQ21405R	SW, OPEN	
S971	RSH1A018-1U	SW, MODE DETECT	
S972	RSH1A019-2U	SW, TAPE DETECT	
S973	RSH1A019-2U	SW, CrO2 DETECT	
S974	RSH1A019-2U	SW, REC DETECT	
S975	RSH1A019-2U	SW, REC DETECT	
		CONNECTORS	
CN1	RJU063W07T	7P B-B CONNECTOR	
CN2	RJU063W07T	7P B-B CONNECTOR	
CN101	RJS11T7ZA	CONNECTOR	
CN102	RJS10T7ZA	CONNECTOR	
CN402	RJS2A3332	32P FFC CONNECTOR	
CN404	RJS1A6603	CONNECTOR	
CN501	RJU057W009	CONNECTOR	
CN502	RJU057W009	CONNECTOR	
CN600	RJS1A6822	22P FFC CONNECTOR	
CN601	RJS1A6820	20P FFC CONNECTOR	
CN606A	RJS1A6214-1	14P FFC CONNECTOR	
CN606	RJS1A6814	FF CONNECTOR	
CP1	RJT063W07T	7P CONNECTOR(CD-G)	
CP2	RJT063W07T	7P CONNECTOR(CD-G)	
CP501	RJT057W009-1	CONNECTOR	
CP502	RJT057W009-1	CONNECTOR	
CP602	RJT071H09A	9P B-B PIN	
CP605	RJT057W004-1	CONNECTOR (4P)	
CP902	RJT071H09A	9P B-B PIN	
CS101	RJS1A6805-J	CONNECTOR SOC.(5P)	[M]
CS602	RJU071H09M	CONNECTOR	
CS605	RJU057W004	SOCKET (4P)	
CS971	RJU071H09M1	9P CONNECTOR	[M]

Ref No.	Part No.	Part Name & Description	Remarks
		COILS & TRANSFORMERS	
L3	RLQZPR47KT-Y	COIL	
L4	ELEPKR68MA	COIL	
L5	ELEPKR68MA	COIL	
L6	ELELN822KL	RF CHOCK COIL	
L7	ELELN822KL	RF CHOCK COIL	
L8	RLQZP1R0KT-Y	AXIAL COIL	
L9	SLM1B10-1M	A.B. FILTER	
L101	RL08B003-K	BIAS OSC COIL	
L103	RLQZB470KT-D	RF CHOKE COIL	
L500	SLQZ650MH49	PRIMARY COIL	⚠
L501	SLQY07G-40	SP COIL	
L502	SLQY07G-40	SP COIL	
L601	RLQZP3R3KT-Y	COIL	
L602	RLQZP2R2KT-Y	COIL	
L603	RLQZB272KT-D	COIL	
L604	RLQZP100KT-Y	AXIAL COIL	
L605	RLQZP100KT-Y	AXIAL COIL	
L606	RLQZP100KT-Y	AXIAL COIL	
T500	RTP1M3B008-V	POWER TRANSFORMER	[M] ⚠
		COMPONENT COMBINATION	
Z1	RLA6Z005M-T	AM ANT/OSC	
Z2	RLI2Z006M-T	AM IFT	
Z3	ENV17290G1R	FM TUNER PACK	
Z601	RCDGP1U58XD	REMOCON SENSOR	
Z971	EXBF7L355SYV	MODE SELECTOR	
		CERAMIC FILTERS	
CF1	RLFFETNGA01L	(FM CF)	
CF2	RLFFETNGA02L	(FM CF)	
		OSCILLATORS	
X1	RSXZ456KM01	19KHZ OSC	
X2	RLFDFT12DD	FM RESONATOR	
X3	SVQ49U722T-S	7.2MHZ X'TAL	
X401	RSXY4M23M01T	CRYSTAL RESONATOP	
X601	RSXD32K7S02	32.768HKZ X'TAL	[M]
		DISPLAY TUBE	
FL601	RSL0220-F	FL	[M]

Ref No.	Part No.	Part Name & Description	Remarks
		FUSE	
F1	XBA2C06TB0	FUSE	⚠
		FUSE HOLDERS	
FC501	SJT388	FUSE CLIP	
FC502	SJT388	FUSE CLIP	
		JACKS	
JK1	RJH8201	JK,ANTENNA TERMINAL	[M]
JK2	SJS208	JK,LOOP ANT TERMINAL	
JK301	SJF3068-7N	JK, RCA TERMINAL	
JK500	SJS9236	JK, AC INLET	⚠
JK501	RJR0054	JK, SP TERMINAL	
		EARTH TERMINAL	
E500	SNE1004-2	EARTH TERMINAL	
		HOLDERS	
H101	RMR0320	WIRE HOLDER	
H102	RMR0319	WIRE HOLDER	[M]
H501	RJS1A5508	8P WIRE HOLDER	
H603A	RMR0316	7P CABLE HOLDER	
H603B	RMR0316	7P CABLE HOLDER	
		RELAY	
RLY501	RSY0015M-0	RELAY	
		HEADPHONE	
HP601	RJJ37TK01-1C	JK, PHONE	
		PACKING MATERIALS	
P1	RPG2931	PACKING CASE	[M]
P3	RPFX0008	POLYBAG	[M]
P4	RPN0954-1	POLYFOAM	[M]
P5	SPSD152	ACCESSORY CASE	(EB, EG)
P5	SPSD155	ACCESSORY CASE	(E)
P6	XZB24X33C04	VINYL BAG	

Ref No.	Part No.	Part Name & Description	Remarks
		ACCESSORIES	
A1	EUR644340	REMOTE CONTROL	[M]
A1-1	UR64EC1822-3	R/C BATTERY COVER	[M]
A2	RSA0007	FM ANTENA	
A3	RSA0010	AM LOOP ANT	
A4	RJA0019-2K	AC CORD (SF)	(E,EG)⚠
A4	VJA0733	AC CORD ⚠ (SF)	[VRD](EB)
A5	RFKSCH64MEK	INST. MANUAL ASS'Y	[M](E)
A5	RQT3448-D	INSTRUCTION MANUAL	[M](EG)
A5	RQT3449-B	INSTRUCTION MANUAL	[M](EB)
A6	RFA0622-K1	FILE BOOK	
A7	RQLA0321	NUMBER SHEET	
A8	SJP9009	ANT ADAPTER	(EB)
		<CD MECHANISM UNIT>	
		CABINET AND CHASSIS	
501	RDG0333	FRONT LOCK GEAR	
502	RDG0334	REAR LOCK GEAR	
503	RDG0374	LOWER LOCK GEAR	
504	RMA0904	SLIDE PLATE (L)	
505	RMA0905	SLIDE PLATE (R)	
506	RMA0906	UPPER RAIL	
507	RMA0907	LOWER RAIL	
508	RMA0908	REAR SUPPORT PLATE	
509	RMB0469	LOCK ARM SPRING	
510	RML0421	STAY LOCK ARM	
511	RML0436	FRONT LOCK PLATE	
512	RML0437	REAR LOCK PLATE	
513	RMR0959-K	ROPE GUIDE	
514	RMW0007	GUARD ROPE	
515	RDG0183	DAMPER GEAR	
516	RMN0388	SINGLE SENOR HOLDER	
517	RFKNLMC50PCK	DISC STOCKER (A)	
518	RFKNLMC50PDK	DISC STOCKER (B)	
519	RMA0910	FRONT STOCKER STAND	
520	RMA0911	REAR STOCKER STAND	
521	RML0419	SHUTTER LEVER (L)	
522	RMR0930-K	SHUTTER INSIDE	
523	RMR0931-K	SHUTTER OUTSIDE	
524	RMR0932-K	SHUTTER SUPPORT(L)	
525	RMR0933-K	SHUTTER SUPPORT(R)	
526	RMR0948-H	S PARTITION PLATE	
527	XTB3+6F	SCREW	
528	RFKNLMC50PEK	EJECT PUSH LEVER	
529	RMC0291	EJECT CLICK SPRING	
530	RME0203	EJECT SLIDE SPRING	

Ref No.	Part No.	Part Name & Description	Remarks
531	RME0204	EJECT LEVER SPRING	
532	RML0438	EJECT MIDDLE LEVER	
533	RML0439	EJECT SLIDE PLATE	
534	RMR0938-K	EJECT BASE	
535	RMR0939-K	EJECT COVER	
536	RMR0940-K	EJECT LEVER	
537	RMR0941-H	EJECT BUTTON	
538	RMR0943-H	EJECT HOLD LEVER	
539	RMR0958-K	EJECT GUIDE	
540	RMR0964-K	EJECT PAD (A)	
541	RMR0965-K	EJECT PAD (B)	
542	SFYB5-32	STEEL BALL	
543	XTN2+6JFZ	SCREW	
544	RMB0454	GUARD ROPE SPRING	
545	RMG0200	CUSHION RUBBER	
546	RMC0316	SPRING PLATE	
		INTEGRATED CIRCUITS	
IC701	AN8835SBE1	IC, SERVO AMP.	
IC702	MN662741RPA	IC, SERVO PROCESSOR	
IC703	AN8389SE1	IC, COIL/MOTOR DRIVE	
		TRANSISTORS	
Q501	2SB1320AQRTA	TRANSISTOR	
Q502	2SC3311AIQST	TRANSISTOR	
Q521	PT4810F	TRANSISTOR	
Q522	PT480F	TRANSISTOR	
Q523	PT480F	TRANSISTOR	
Q531	PT480F	TRANSISTOR	
Q701	2SB709S	TRANSISTOR	
		DIODES	
D501	MA165	DIODE	
D511	RSQGP1S53V	LED (SPEED SENSOR)	
D521	LN66S	LED (DISC SENSOR)	
D522	GL480V	LED (POSIT. SENSOR)	
D523	BR3433S	LED	
D531	GL480V	LED(SINGLE SENSOR)	
		VARIABLE RESISTOR	
VR501	EVMLGGA00B14	VR, CD SENSOR	

Ref No.	Part No.	Part Name & Description	Remarks
		SWITCHES	
S501	RSP1A017-A	LOCK DET./MLOCK	
S502	RSH1A005	CLAMP DET.	
S503	RSH1A005	CLAMP DET./FREE	
S701	RSM0006-P	SW, RESET	
		CONNECTORS	
CN501	RJS2A3332	CONNECTOR (32P)	
CN502	RJS1A6223-1	CONNECTOR (23P)	
CN503	RJT057W007-1	CONNECTOR (7P)	
CN504	RJS7T4ZA	CONNECTOR (7P)	
CN511	RJU057W007	SOCKET (7P)	
CN521	RJS7T7ZA	CONNECTOR (7P)	
CN531	SJT30344-H	CONNECTOR (3P)	
CN701	RJU035T016-1	16P FFC CONNECTOR	
CN702	RJS1A6729-1Q	23P FFC CONNECTOR	
		OSCILLATOR	
X701	RSXZ16M9M01T	CERAMIC OSC	

■ Resistors & Capacitors

Notes : • Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors),etc. are used.
When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
• [M] indicates in Remarks column parts that are supplied by **MESA**.
• Capacitor values are in microfarad (μF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
• Resistors values are in ohms, unless specified otherwise, 1k=1,000(OHM), 1M=1,000k(OHM)

Ref No.	Part No.	Values & Remarks
	RESISTORS	
R15	ERDS2TJ181T	180 1/4W
R16	ERDS2TJ153T	15K 1/4W
R17	ERDS2TJ331T	330 1/4W
R18	ERDS2TJ471T	470 1/4W
R19	ERDS2TJ474T	470K 1/4W
R20	ERDS2TJ562T	5.6K 1/4W
R21	ERDS2TJ822T	8.2K 1/4W
R22	ERDS2TJ473T	47K 1/4W
R23	ERDS2TJ332T	3.3K 1/4W
R24	ERDS2TJ472T	4.7K 1/4W
R25	ERDS2TJ271T	270 1/4W
R26	ERDS2TJ471T	470 1/4W
R27	ERDS2TJ272T	2.7K 1/4W
R28	ERDS2TJ473T	47K 1/4W
R29	ERDS2TJ680T	68 1/4W
R32	ERDS2TJ272T	2.7K 1/4W
R33	ERDS2TJ272T	2.7K 1/4W
R34	ERDS2TJ272T	2.7K 1/4W
R35	ERDS2TJ272T	2.7K 1/4W
R36	ERDS2TJ474T	470K 1/4W
R37	ERDS2TJ474T	470K 1/4W
R38	ERDS2TJ272T	2.7K 1/4W
R39	ERDS2TJ272T	2.7K 1/4W
R40	ERDS2TJ391T	390 1/4W
R41	ERDS2TJ102T	1K 1/4W
R42	ERDS2TJ102T	1K 1/4W
R43	ERDS2TJ102T	1K 1/4W
R44	ERDS2TJ102T	1K 1/4W
R45	ERDS2TJ102T	1K 1/4W
R46	ERDS2TJ104T	100K 1/4W
R47	ERDS2TJ562T	5.6K 1/4W
R48	ERDS2TJ391T	390 1/4W
R49	ERDS2TJ561T	560 1/4W
R50	ERDS2TJ102T	1K 1/4W
R51	ERDS2TJ103T	10K 1/4W
R52	ERDS2TJ102T	1K 1/4W
R53	ERDS2TJ102T	1K 1/4W
R54	ERDS2TJ102T	1K 1/4W
R55	ERDS2TJ102T	1K 1/4W
R56	ERDS2TJ102T	1K 1/4W
R57	ERDS2TJ103T	10K 1/4W
R58	ERDS2TJ103T	10K 1/4W
R60	ERDS2TJ563T	56K 1/4W
R61	ERDS2TJ102T	1K 1/4W
R63	ERDS2TJ102T	1K 1/4W
R64	ERDS2TJ820T	82 1/4W
R65	ERDS2TJ103T	10K 1/4W
R71	ERDS2TJ182T	1.8K 1/4W
R72	ERDS2TJ122T	1.2K 1/4W
R73	ERDS2TJ122T	1.2K 1/4W
R74	ERDS2TJ103T	10K 1/4W
R75	ERDS2TJ222T	2.2K 1/4W
R76	ERDS2TJ331T	330 1/4W
R77	ERDS2TJ474T	470K 1/4W
R101	ERDS2TJ223T	22K 1/4W
R102	ERDS2TJ223T	22K 1/4W
R103	ERDS2TJ820T	82 1/4W
R104	ERDS2TJ820T	82 1/4W
R105	ERDS2TJ822T	8.2K 1/4W
R106	ERDS2TJ822T	8.2K 1/4W
R107	ERDS2TJ334T	330K 1/4W
R108	ERDS2TJ334T	330K 1/4W
R109	ERDS2TJ472T	4.7K 1/4W
R110	ERDS2TJ472T	4.7K 1/4W
R111	ERDS2TJ222T	2.2K 1/4W
R112	ERDS2TJ222T	2.2K 1/4W
R115	ERDS2TJ102T	1K 1/4W
R116	ERDS2TJ102T	1K 1/4W
R117	ERDS2TJ102T	1K 1/4W
R118	ERDS2TJ562T	5.6K 1/4W
R120	ERDS2TJ392T	3.9K 1/4W
R121	ERDS2TJ392T	3.9K 1/4W
R122	ERDS2TJ681T	680 1/4W
R123	ERDS2TJ681T	680 1/4W
R128	ERDS2TJ822T	8.2K 1/4W
R129	ERDS2TJ822T	8.2K 1/4W
R130	ERDS2TJ470T	47 1/4W
R131	ERDS2TJ470T	47 1/4W
R132	ERDS2TJ335T	3.3M 1/4W
R133	ERDS2TJ101T	100 1/4W
R134	ERDS2TJ153T	15K 1/4W
R135	ERDS2TJ153T	15K 1/4W
R136	ERDS2TJ474T	470K 1/4W
R137	ERDS2TJ474T	470K 1/4W
R138	ERDS2TJ474T	470K 1/4W
R139	ERDS2TJ223T	22K 1/4W
R140	ERDS2TJ223T	22K 1/4W
R143	ERDS2TJ104T	100K 1/4W
R144	ERDS2TJ104T	100K 1/4W
R145	ERDS2TJ104T	100K 1/4W
R147	ERDS2TJ102T	1K 1/4W
R148	ERDS2TJ102T	1K 1/4W
R150	ERDS2TJ222T	2.2K 1/4W
R151	ERDS2TJ472T	4.7K 1/4W
R152	ERDS2TJ472T	4.7K 1/4W
R153	ERDS2TJ4R7T	4.7 1/4W
R154	ERDS2TJ331T	330 1/4W
R156	ERDS2TJ103T	10K 1/4W
R157	ERDS2TJ222T	2.2K 1/4W
R158	ERDS2TJ222T	2.2K 1/4W
R159	ERDS2TJ332T	3.3K 1/4W
R160	ERDS2TJ682T	6.8K 1/4W
R163	ERDS2TJ102T	1K 1/4W
R164	ERDS2TJ2R7T	2.7 1/4W
R165	ERDS2TJ102T	1K 1/4W
R170	ERDS2TJ561T	560 1/4W
R171	ERDS2TJ222T	2.2K 1/4W
R172	ERDS2TJ104T	100K 1/4W
R173	ERDS2TJ104T	100K 1/4W
R174	ERDS2TJ823T	82K 1/4W
R175	ERDS2TJ470T	47 1/4W
R176	ERDS2TJ2R7T	2.7 1/4W
R177	ERDS2TJ103T	10K 1/4W
R178	ERDS2TJ223T	22K 1/4W
R179	ERDS2TJ332T	3.3K 1/4W
R181	ERDS2TJ103T	10K 1/4W
R182	ERDS2TJ1R0T	1 1/4W
R183	ERDS2TJ102T	1K 1/4W
R184	ERDS2TJ472T	4.7K 1/4W
R188	ERDS2TJ104T	100K 1/4W
R301	ERDS2TJ223T	22K 1/4W
R302	ERDS2TJ223T	22K 1/4W
R303	ERDS2TJ272T	2.7K 1/4W
R304	ERDS2TJ272T	2.7K 1/4W
R309	ERDS2TJ272T	2.7K 1/4W
R310	ERDS2TJ272T	2.7K 1/4W
R311	ERDS2TJ103T	10K 1/4W
R312	ERDS2TJ103T	10K 1/4W
R313	ERDS2TJ272T	2.7K 1/4W
R314	ERDS2TJ103T	10K 1/4W
R315	ERDS2TJ104T	100K 1/4W
R316	ERDS2TJ104T	100K 1/4W
R317	ERDS2TJ103T	10K 1/4W
R318	ERDS2TJ103T	10K 1/4W
R319	ERDS2TJ103T	10K 1/4W
R321	ERDS2TJ102T	1K 1/4W
R322	ERDS2TJ102T	1K 1/4W
R323	ERDS2TJ104T	100K 1/4W
R324	ERDS2TJ104T	100K 1/4W
R325	ERDS2TJ472T	4.7K 1/4W
R326	ERDS2TJ472T	4.7K 1/4W
R327	ERDS2TJ102T	1K 1/4W
R328	ERDS2TJ102T	1K 1/4W
R329	ERDS2TJ104T	100K 1/4W
R330	ERDS2TJ104T	100K 1/4W
R331	ERDS2TJ182T	1.8K 1/4W
R332	ERDS2TJ182T	1.8K 1/4W
R333	ERDS2TJ562T	5.6K 1/4W
R334	ERDS2TJ562T	5.6K 1/4W
R335	ERDS2TJ123T	12K 1/4W
R336	ERDS2TJ123T	12K 1/4W
R337	ERDS2TJ104T	100K 1/4W
R338	ERDS2TJ104T	100K 1/4W
R339	ERDS2TJ121T	120 1/4W
R340	ERDS2TJ121T	120 1/4W
R341	ERDS2TJ224T	220K 1/4W
R342	ERDS2TJ105T	1M 1/4W
R343	ERDS2TJ121T	120 1/4W
R344	ERDS2TJ121T	120 1/4W
R345	ERDS2TJ121T	120 1/4W
R346	ERDS2TJ121T	120 1/4W
R347	ERDS2TJ561T	560 1/4W
R348	ERDS2TJ222T	2.2K 1/4W
R349	ERDS2TJ102T	1K 1/4W
R350	ERDS2TJ224T	220K 1/4W
R351	ERDS2TJ105T	1M 1/4W

Ref No.	Part No.	Values & Remarks
R352	ERDS2TJ472T	4.7K 1/4W
R353	ERDS2TJ472T	4.7K 1/4W
R355	ERDS2TJ474T	470K 1/4W
R356	ERDS2TJ562T	5.6K 1/4W
R357	ERDS2TJ562T	5.6K 1/4W
R359	ERDS2TJ105T	1M 1/4W
R361	ERDS2TJ562T	5.6K 1/4W
R362	ERDS2TJ562T	5.6K 1/4W
R363	ERDS2TJ823T	82K 1/4W
R364	ERDS2TJ823T	82K 1/4W
R365	ERDS2TJ822T	8.2K 1/4W
R366	ERDS2TJ822T	8.2K 1/4W
R367	ERDS2TJ222T	2.2K 1/4W
R368	ERDS2TJ102T	1K 1/4W
R370	ERDS2TJ102T	1K 1/4W
R371	ERDS2TJ102T	1K 1/4W
R372	ERDS2TJ473T	47K 1/4W
R373	ERDS2TJ103T	10K 1/4W
R374	ERDS2TJ222T	2.2K 1/4W
R375	ERDS2TJ222T	2.2K 1/4W
R376	ERDS2TJ333T	33K 1/4W
R377	ERDS2TJ333T	33K 1/4W
R378	ERDS2TJ222T	2.2K 1/4W
R380	ERDS2TJ102T	1K 1/4W
R381	ERDS2TJ102T	1K 1/4W
R382	ERDS2TJ102T	1K 1/4W
R382	ERDS2TJ472T	4.7K 1/4W
R383	ERDS2TJ102T	1K 1/4W
R384	ERDS2TJ102T	1K 1/4W
R385	ERDS2TJ683T	68K 1/4W
R386	ERDS2TJ683T	68K 1/4W
R387	ERDS2TJ222T	2.2K 1/4W
R388	ERDS2TJ562T	5.6K 1/4W
R389	ERDS2TJ562T	5.6K 1/4W
R392	ERDS2TJ102T	1K 1/4W
R393	ERDS2TJ102T	1K 1/4W
R394	ERDS2TJ102T	1K 1/4W
R395	ERDS2TJ331T	330 1/4W
R396	ERDS2TJ272T	2.7K 1/4W
R397	ERDS2TJ222T	2.2K 1/4W
R398	ERDS2TJ472T	4.7K 1/4W
R398	ERDS2TJ473T	47K 1/4W
R399	ERDS2TJ123T	12K 1/4W
R400	ERDS2TJ123T	12K 1/4W
R401	ERDS2TJ562T	5.6K 1/4W
R402	ERDS2TJ562T	5.6K 1/4W
R403	ERDS2TJ102T	1K 1/4W
R404	ERDS2TJ102T	1K 1/4W

Ref No.	Part No.	Values & Remarks
R405	ERDS2TJ102T	1K 1/4W
R406	ERDS2TJ102T	1K 1/4W
R407	ERDS2TJ103T	10K 1/4W
R408	ERDS2TJ122T	1.2K 1/4W
R409	ERDS2TJ473T	47K 1/4W
R410	ERDS2TJ103T	10K 1/4W
R411	ERDS2TJ103T	10K 1/4W
R412	ERDS2TJ103T	10K 1/4W
R413	ERDS2TJ272T	2.7K 1/4W
R416	ERDS2TJ102T	1K 1/4W
R417	ERDS2TJ472T	4.7K 1/4W
R418	ERDS2TJ181T	180 1/4W
R419	ERDS2TJ472T	4.7K 1/4W
R420	ERDS2TJ472T	4.7K 1/4W
R424	ERDS2TJ104T	100K 1/4W
R425	ERDS2TJ181T	180 1/4W
R454	ERDS2TJ472T	4.7K 1/4W
R461	ERDS2TJ561T	560 1/4W
R462	ERDS2TJ331T	330 1/4W
R463	ERDS2TJ821T	820 1/4W
R464	ERDS2TJ821T	820 1/4W
R465	ERDS2TJ561T	560 1/4W
R487	ERDS2TJ102T	1K 1/4W
R488	ERDS2TJ152T	1.5K 1/4W
R501	ERDS2TJ102T	1K 1/4W
R502	ERDS2TJ102T	1K 1/4W
R503	ERDS2TJ563T	56K 1/4W
R504	ERDS2TJ563T	56K 1/4W
R505	ERDS2TJ392T	3.9K 1/4W
R506	ERDS2TJ392T	3.9K 1/4W
R507	ERDS2TJ563T	56K 1/4W
R508	ERDS2TJ563T	56K 1/4W
R509	ERDS1FVJ100T	10 1/2W
R510	ERDS1FVJ100T	10 1/2W
R511	ERDS2TJ823T	82K 1/4W
R512	ERDS2TJ124T	120K 1/4W
R513	ERDS2TJ684T	680K 1/4W
R514	ERDS2TJ563T	56K 1/4W
R515	ERDS2TJ103T	10K 1/4W
R516	ERD2FCVG470T	47 1/4W
R517	ERDS2TJ222T	2.2K 1/4W
R518	ERDS2TJ222T	2.2K 1/4W
R519	ERDS2TJ563T	56K 1/4W
R531	ERDS2TJ330T	33 1/4W
R532	ERDS2TJ330T	33 1/4W
R537	ERDS1FVJ220T	22 1/2W
R538	ERDS1FVJ220T	22 1/2W
R539	ERDS1FVJ220T	22 1/2W

Ref No.	Part No.	Values & Remarks
R540	ERDS1FVJ220T	22 1/2W
R541	ERDS1FVJ470T	47 1/2W
R542	ERDS1FVJ470T	47 1/2W
R543	ERDS1FVJ470T	47 1/2W
R545	ERDS1FVJ1R0T	1 1/2W
R547	ERDS1FVJ152T	1.5K 1/2W
R548	ERDS1FVJ152T	1.5K 1/2W
R549	ERDS2TJ151T	150 1/4W
R550	ERDS2TJ151T	150 1/4W
R551	ERDS2TJ151T	150 1/4W
R552	ERDS2TJ180T	18 1/4W
R553	ERDS2TJ180T	18 1/4W
R554	ERDS2TJ180T	18 1/4W
R555	ERDS2TJ471T	470 1/4W
R556	ERDS2TJ180T	18 1/4W
R557	ERDS2TJ681T	680 1/4W
R558	ERDS2TJ151T	150 1/4W
R559	ERDS2TJ681T	680 1/4W
R561	ERDS2TJ223T	22K 1/4W
R562	ERDS2TJ181T	180 1/4W
R563	ERDS2TJ273T	27K 1/4W
R564	ERDS2TJ223T	22K 1/4W
R565	ERDS2TJ331T	330 1/4W
R566	ERDS2TJ332T	3.3K 1/4W
R567	ERDS2TJ472T	4.7K 1/4W
R568	ERDS2TJ332T	3.3K 1/4W
R569	ERDS2TJ332T	3.3K 1/4W
R570	ERDS2TJ103T	10K 1/4W
R572	ERDS1FVJ151T	150 1/2W
R576	ERDS2TJ102T	1K 1/4W
R577	ERDS2TJ151T	150 1/4W
R578	ERDS1FVJ151T	150 1/2W
R579	ERDS1FVJ151T	150 1/2W
R580	ERDS2TJ100T	10 1/4W
R581	ERDS2TJ100T	10 1/4W
R582	ERDS1FVJ3R3T	3.3 1/2W
R583	ERDS2TJ330T	33 1/4W
R584	ERDS2TJ330T	33 1/4W
R585	ERDS2TJ330T	33 1/4W
R586	ERDS2TJ330T	33 1/4W
R587	ERDS2TJ330T	33 1/4W
R606	ERDS2TJ824T	820K 1/4W
R609	ERDS2TJ101T	100 1/4W
R610	ERDS2TJ101T	100 1/4W
R611	ERDS2TJ473T	47K 1/4W
R612	ERDS2TJ101T	100 1/4W
R613	ERDS2TJ102T	1K 1/4W
R614	ERDS2TJ102T	1K 1/4W

Ref No.	Part No.	Values & Remarks
R615	ERDS2TJ102T	1K 1/4W
R616	ERDS2TJ103T	10K 1/4W
R617	ERDS2TJ106T	10M 1/4W
R618	ERDS2TJ334T	330K 1/4W
R619	ERDS2TJ681T	680 1/4W
R620	ERDS2TJ472T	4.7K 1/4W
R621	ERDS2TJ472T	4.7K 1/4W
R625	ERDS2TJ101T	100 1/4W
R626	ERDS2TJ101T	100 1/4W
R627	ERDS2TJ104T	100K 1/4W
R628	ERDS2TJ104T	100K 1/4W
R629	ERDS2TJ104T	100K 1/4W
R630	ERDS2TJ104T	100K 1/4W
R631	ERDS2TJ104T	100K 1/4W
R632	ERDS2TJ104T	100K 1/4W
R633	ERDS2TJ104T	100K 1/4W
R634	ERDS2TJ104T	100K 1/4W
R635	ERDS2TJ223T	22K 1/4W
R636	ERDS2TJ331T	330 1/4W
R638	ERDS2TJ103T	10K 1/4W
R639	ERDS2TJ103T	10K 1/4W
R640	ERDS2TJ103T	10K 1/4W
R641	ERDS2TJ103T	10K 1/4W
R642	ERDS2TJ473T	47K 1/4W
R643	ERDS2TJ473T	47K 1/4W
R644	ERDS2TJ101T	100 1/4W
R645	ERDS2TJ101T	100 1/4W
R646	ERDS2TJ101T	100 1/4W
R647	ERDS2TJ101T	100 1/4W
R666	ERDS2TJ104T	100K 1/4W
R667	ERDS2TJ104T	100K 1/4W
R681	ERDS2TJ223T	22K 1/4W
R682	ERDS2TJ223T	22K 1/4W
R683	ERDS2TJ223T	22K 1/4W
R685	ERDS2TJ223T	22K 1/4W
R686	ERDS2TJ223T	22K 1/4W
R687	ERDS2TJ331T	330 1/4W
R690	ERDS2TJ121T	120 1/4W
R694	ERDS2TJ102T	1K 1/4W
R695	ERDS2TJ102T	1K 1/4W
R696	ERDS2TJ122T	1.2K 1/4W
R697	ERDS2TJ182T	1.8K 1/4W
R698	ERDS2TJ104T	100K 1/4W
R699	ERDS2TJ104T	100K 1/4W
R700	ERDS2TJ102T	1K 1/4W
R701	ERDS2TJ102T	1K 1/4W
R702	ERDS2TJ122T	1.2K 1/4W
R703	ERDS2TJ182T	1.8K 1/4W

Ref No.	Part No.	Values & Remarks
R704	ERDS2TJ222T	2.2K 1/4W
R705	ERDS2TJ272T	2.7K 1/4W
R706	ERDS2TJ472T	4.7K 1/4W
R707	ERDS2TJ682T	6.8K 1/4W
R723	ERDS2TJ102T	1K 1/4W
R724	ERDS2TJ102T	1K 1/4W
R725	ERDS2TJ122T	1.2K 1/4W
R726	ERDS2TJ182T	1.8K 1/4W
R727	ERDS2TJ222T	2.2K 1/4W
R728	ERDS2TJ272T	2.7K 1/4W
R729	ERDS2TJ472T	4.7K 1/4W
R730	ERDS2TJ102T	1K 1/4W
R731	ERDS2TJ102T	1K 1/4W
R732	ERDS2TJ122T	1.2K 1/4W
R733	ERDS2TJ182T	1.8K 1/4W
R734	ERDS2TJ222T	2.2K 1/4W
R735	ERDS2TJ272T	2.7K 1/4W
R736	ERDS2TJ472T	4.7K 1/4W
R737	ERDS2TJ682T	6.8K 1/4W
R738	ERDS2TJ103T	10K 1/4W
R739	ERDS2TJ223T	22K 1/4W
R740	ERDS2TJ102T	1K 1/4W
R750	ERDS2TJ471T	470 1/4W
R751	ERDS2TJ151T	150 1/4W
R753	ERDS2TJ471T	470 1/4W
R756	ERDS2TJ681T	680 1/4W
R757	ERDS2TJ102T	1K 1/4W
R758	ERDS2TJ681T	680 1/4W
R759	ERDS2TJ102T	1K 1/4W
R760	ERDS2TJ681T	680 1/4W
R761	ERDS2TJ101T	100 1/4W
R762	ERDS2TJ101T	100 1/4W
R763	ERDS2TJ331T	330 1/4W
R764	ERDS2TJ223T	22K 1/4W
R972	ERDS2TJ821T	820 1/4W
R973	ERDS2TJ393T	39K 1/4W
	CAPACITORS	
C15	ECBT1C103MS5	0.01 16V
C16	ECEA1CU220B	22 16V
C17	ECBT1C103MS5	0.01 16V
C18	ECBT1H102KB5	1000P 50V
C19	ECBT1C103MS5	0.01 16V
C20	ECEA1HKA3R3B	3.3 50V
C21	ECEA0JU101B	100 6.3V
C22	ECBT1C103MS5	0.01 16V
C23	ECEA1CU220B	22 16V

Ref No.	Part No.	Values & Remarks
C24	ECBT1H473ZF5	0.047 50V
C25	ECEA1HKA4R7B	4.7 50V
C26	ECBT1C822MS5	8200P 16V
C27	ECQP1821JZT	820P 100V[M]
C28	ECEA1HKA010B	1 50V
C29	ECFR1C103KR	0.01 16V
C30	ECFR1C103KR	0.01 16V
C31	ECBT1H150JC5	15P 50V
C32	ECBT1C103MS5	0.01 16V
C33	ECEA1HKA2R2B	2.2 50V
C34	ECEA1HKA010B	1 50V
C35	ECEA1HKA010B	1 50V
C36	ECEA1HKA010B	1 50V
C37	ECEA1HKA010B	1 50V
C38	ECBT1C103MS5	0.01 16V
C39	ECBT1C103MS5	0.01 16V
C40	ECBT1H561KB5	560P 50V
C41	ECBT1H561KB5	560P 50V
C42	ECBT1C682MR5	6800P 16V
C43	ECBT1C682MR5	6800P 16V
C44	ECEA1CU101B	100 16V
C45	ECEA1HKA010B	1 50V
C46	ECEA1HKA010B	1 50V
C47	ECBT1H473ZF5	0.047 50V
C48	ECBT1H100JC5	10P 50V
C49	ECBT1H331KB5	330P 50V
C51	ECBT1C103MS5	0.01 16V
C52	ECEA25M4R7B	4.7 25V
C53	ECBT1C103MS5	0.01 16V
C54	ECBT1H180JC5	18P 50V
C55	ECBT1H150JC5	15P 50V
C56	ECBT1H102KB5	1000P 50V
C57	ECEA0JU101B	100 6.3V
C59	ECBT1H330J5	33P 50V
C60	ECBT1H102KB5	1000P 50V
C61	ECBT1H331KB5	330P 50V
C62	ECEA1CU220B	22 16V
C63	ECBT1C103MS5	0.01 16V
C64	ECBT1C103MS5	0.01 16V
C65	ECBT1H102KB5	1000P 50V
C66	ECBT1H102KB5	1000P 50V
C67	ECBT1H102KB5	1000P 50V
C68	ECBT1H102KB5	1000P 50V
C71	ECBT1C103MS5	0.01 16V
C72	ECBT1H471KB5	470P 50V
C73	ECBT1H2R7KC5	2.7P 50V
C101	ECBT1H101KB5	100P 50V
C102	ECBT1H101KB5	100P 50V

Ref No.	Part No.	Values & Remarks
C103	ECBT1H681KB5	680P 50V
C104	ECBT1H681KB5	680P 50V
C106	ECBT1H331KB5	330P 50V
C107	ECBT1H331KB5	330P 50V
C108	ECEA1AKA330B	33 10V
C109	ECEA1AKA330B	33 10V
C110	ECBT0J153MS5	0.015 6.3V
C111	ECBT0J153MS5	0.015 6.3V
C112	ECEA1HKA3R3B	3.3 50V
C113	ECEA1HKA3R3B	3.3 50V
C114	ECEA1CKA100B	10 16V
C120	ECEA1HKA010B	1 50V
C121	ECEA1HKA010B	1 50V
C122	ECBT1H102KB5	1000P 50V
C123	ECBT1H102KB5	1000P 50V
C124	ECBT1H101KB5	100P 50V
C125	ECBT1H101KB5	100P 50V
C126	ECEA1AKA330B	33 10V
C127	ECEA1AKA330B	33 10V
C128	ECBT1H221KB5	220P 50V
C129	ECBT1H221KB5	220P 50V
C130	ECBT1H221KB5	220P 50V
C131	ECBT1H221KB5	220P 50V
C132	ECEA1HKA3R3B	3.3 50V
C133	ECEA1HKA3R3B	3.3 50V
C134	ECBT1H102KB5	1000P 50V
C135	ECBT1H102KB5	1000P 50V
C136	ECBT1C152KR5	1500P 16V
C137	ECBT1C152KR5	1500P 16V
C138	ECBT1C103NS5	0.01 16V
C139	ECBT1H102KB5	1000P 50V
C140	ECEA1CU221B	220 16V
C141	ECEA1CKA100B	10 16V
C142	ECEA1AKA220B	22 10V
C143	ECBT1H102KB5	1000P 50V
C150	ECBT1C103NS5	0.01 16V
C151	ECBT1H102KB5	1000P 50V
C152	ECBT1C103NS5	0.01 16V
C153	ECBT1C103NS5	0.01 16V
C154	ECBT1H102KB5	1000P 50V
C155	ECQV1H473JZ3	0.047 50V
C156	ECEA1CKA101B	100 16V
C157	ECQP2A472JZT	4700P 100V
C158	ECQP1152JZT	1500P 100V[M]
C159	ECQP2A272JZT	2700P 100V
C160	ECBT1C103NS5	0.01 16V
C161	ECBT1C103NS5	0.01 16V
C162	ECEA1EKA4R7B	4.7 25V

Ref No.	Part No.	Values & Remarks
C163	ECEA1EKA4R7B	4.7 25V
C164	ECQV1H474JZ3	0.47 50V
C173	ECBT1C103NS5	0.01 16V
C174	ECEA1AKA470B	47 10V
C301	ECBT1H101KB5	100P 50V
C302	ECBT1H101KB5	100P 50V
C303	ECBT1E103ZF5	0.01 25V
C313	ECBT1H101KB5	100P 50V
C314	ECBT1H101KB5	100P 50V
C315	ECEA1CKA100B	10 16V
C316	ECBT1H102KB5	1000P 50V
C317	ECBT1H101KB5	100P 50V
C318	ECBT1H101KB5	100P 50V
C319	ECEA1HKA3R3B	3.3 50V
C320	ECBT1C103NS5	0.01 16V
C321	ECBT1C103NS5	0.01 16V
C322	ECBT1C103NS5	0.01 16V
C323	ECBT0J153MS5	0.015 6.3V
C324	ECBT0J153MS5	0.015 6.3V
C325	ECQV1H154JZ3	0.15 50V
C326	ECQV1H154JZ3	0.15 50V
C327	ECEA1HKA3R3B	3.3 50V
C328	ECEA1HKA3R3B	3.3 50V
C329	ECEA1HKA3R3B	3.3 50V
C330	ECEA1HKA3R3B	3.3 50V
C331	ECEA1HKA3R3B	3.3 50V
C332	ECEA1HKA3R3B	3.3 50V
C333	ECEA1EKA4R7B	4.7 25V
C334	ECEA1EKA4R7B	4.7 25V
C335	ECEA1CKA100B	10 16V
C336	ECEA1HKA3R3B	3.3 50V
C337	ECEA1EKA4R7B	4.7 25V
C338	ECEA1EKA4R7B	4.7 25V
C339	ECBT1E103ZF5	0.01 25V
C340	ECBT1E103ZF5	0.01 25V
C341	ECEA1CKA100B	10 16V
C342	ECEA1CKA100B	10 16V
C343	ECBT1H101KB5	100P 50V
C344	ECBT1H101KB5	100P 50V
C345	ECBT1H270J5	27P 50V
C346	ECBT1H270J5	27P 50V
C347	ECKR1H103ZF5	0.01 50V
C348	ECKR1H103ZF5	0.01 50V
C349	ECBT1E103ZF5	0.01 25V
C350	ECBT1E103ZF5	0.01 25V
C351	ECEA1HKAR47B	0.47 50V
C352	ECEA1EKA4R7B	4.7 25V
C353	ECBT1C103NS5	0.01 16V

Ref No.	Part No.	Values & Remarks
C354	ECEA1HKAR47B	0.47 50V
C355	ECBT1H101KB5	100P 50V
C356	ECBT1H101KB5	100P 50V
C357	ECBT1H270J5	27P 50V
C358	ECBT1H270J5	27P 50V
C359	ECEA1HKA3R3B	3.3 50V
C360	ECEA1HKA3R3B	3.3 50V
C361	ECBT1C103NS5	0.01 16V
C362	ECBT1C103NS5	0.01 16V
C363	ECBT1H101KB5	100P 50V
C364	ECBT1H101KB5	100P 50V
C365	ECFR1C104KR	0.1 16V
C366	ECBT1C103NS5	0.01 16V
C367	ECEA1HKA3R3B	3.3 50V
C368	ECEA1HKA3R3B	3.3 50V
C370	ECEA1AU221B	220 10V
C371	ECEA1HKAR33B	0.33 50V
C372	ECEA1HKAR33B	0.33 50V
C373	ECEA1HKAR33B	0.33 50V
C374	ECEA1HKAR33B	0.33 50V
C375	ECBT1C103NS5	0.01 16V
C376	ECEA1CKA100B	10 16V
C377	ECBT1C103NS5	0.01 16V
C378	ECBT1H101KB5	100P 50V
C379	ECBT1H101KB5	100P 50V
C391	ECBT1C472MR5	4700P 16V
C392	ECBT1C472MR5	4700P 16V
C398	ECBT1E103ZF5	0.01 25V
C399	ECBT1E103ZF5	0.01 25V
C401	ECBT1C103NS5	0.01 16V
C402	ECEA0JU471B	470 6.3V
C405	ECBT1C332MR5	3300P 16V
C406	ECBT1C332MR5	3300P 16V
C407	ECBT1C103NS5	0.01 16V
C408	ECBT1C103NS5	0.01 16V
C409	ECBT1C103NS5	0.01 16V
C410	ECBT1C103NS5	0.01 16V
C411	ECEA1HKA4R7B	4.7 50V
C412	ECEA1HKA4R7B	4.7 50V
C413	ECBT1E103ZF5	0.01 25V
C414	ECBT1E103ZF5	0.01 25V
C415	ECEA1HKA010B	1 50V
C422	ECBT1H102KB5	1000P 50V
C461	ECEA1AKA470B	47 10V
C501	ECEA1HKA010B	1 50V
C502	ECEA1HKA010B	1 50V
C503	ECBT1H102KB5	1000P 50V
C504	ECBT1H102KB5	1000P 50V
C505	ECBT1H102KB5	1000P 50V
C506	ECBT1H102KB5	1000P 50V
C507	ECBT1H150JC5	15P 50V
C508	ECBT1H150JC5	15P 50V
C509	ECEA1HKA4R7B	4.7 50V
C510	ECEA1HKA4R7B	4.7 50V
C511	ECEA1VU330B	33 35V
C512	ECEA2AU100B	10 100V
C513	ECFR1E104ZF5	0.1 25V
C514	ECFR1E104ZF5	0.1 25V
C515	ECBT1E223ZF5	0.022 25V
C516	ECEA0JU221B	220 6.3V
C517	ECBT1C472KR5	4700P 16V
C518	ECBT1C472KR5	4700P 16V
C519	ECKR1H103ZF5	0.01 50V
C520	ECKR1H103ZF5	0.01 50V
C541	ECKR2H103ZF5	0.01 500V
C542	ECKR2H103ZF5	0.01 500V
C543	ECKR2H103ZF5	0.01 500V
C544	ECKR2H103ZF5	0.01 500V
C545	ECKR2H103ZF5	0.01 500V
C546	ECKR2H103ZF5	0.01 500V
C547	ECEA1VU222E	2200 35V ⚠
C548	ECEA1VU222E	2200 35V ⚠
C549	ECEA1VU102E	1000 35V ⚠
C551	ECBT1E103ZF5	0.01 25V
C552	ECBT1E103ZF5	0.01 25V
C553	ECEA1VU470B	47 35V
C554	ECEA1CU470B	47 16V
C555	ECBT1E103ZF5	0.01 25V
C556	ECEA1CKA330B	33 16V
C557	ECBT1E103ZF5	0.01 25V
C558	ECEA1CU330B	33 16V
C559	ECBT1E103ZF5	0.01 25V
C560	ECEA1CU470B	47 16V
C561	ECBT1E103ZF5	0.01 25V
C562	ECEA1HKA010B	1 50V
C563	ECEA1EKA4R7B	4.7 25V
C564	ECBT1E103ZF5	0.01 25V
C565	ECEA1HU330B	33 50V
C566	ECKR1H103ZF5	0.01 50V
C567	ECKR1H103ZF5	0.01 50V
C568	ECEA1HU470B	47 50V
C569	ECEA1HU101B	100 50V
C570	ECBT1E103ZF5	0.01 25V
C571	ECEA1AKA470B	47 10V
C572	ECEA1HU470B	47 50V
C573	ECEA1CKA100B	10 16V
C574	ECQE1224KF3	0.22 100V[M]
C600	ECEA1AKA101B	100 10V
C601	ECBT1H102KB5	1000P 50V
C602	ECBT1H102KB5	1000P 50V
C604	ECBT1H561KB5	560P 50V
C605	ECBT1H561KB5	560P 50V
C606	ECBT1H561KB5	560P 50V
C607	ECBT1H561KB5	560P 50V
C609	ECEA1CKA100B	10 16V
C610	ECBT1C103MS5	0.01 16V
C611	ECBT1H101KB5	100P 50V
C612	ECBT1H101KB5	100P 50V
C613	ECEA1HKA010B	1 50V
C614	ECEA1HKA010B	1 50V
C615	ECBT1H180JC5	18P 50V
C616	ECBT1H220JC5	22P 50V
C617	ECBT1H680J5	68P 50V
C618	ECBT1H560J5	56P 50V
C619	ECBT1H680J5	68P 50V
C620	ECBT1H560J5	56P 50V
C621	ECEA1HKA3R3B	3.3 50V
C622	ECEA1HKAR33B	0.33 50V
C623	ECEA1HKAR33B	0.33 50V
C624	ECEA0JKA101B	100 6.3V
C625	ECBT1H102KB5	1000P 50V
C626	ECEA0JU102B	1000 6.3V
C627	ECEA0JU102B	1000 6.3V
C628	ECBT1H102KB5	1000P 50V
C629	ECBT1H101KB5	100P 50V
C630	ECBT1H101KB5	100P 50V
C631	ECBT1C103MS5	0.01 16V
C632	ECBT1C103MS5	0.01 16V
C671	ECBT1E223ZF5	0.022 25V
C683	ECBT1H102KB5	1000P 50V
C684	ECBT1H102KB5	1000P 50V
C685	ECBT1C103MS5	0.01 16V
C686	ECBT1H102KB5	1000P 50V
C687	ECBT1H102KB5	1000P 50V
C688	ECBT1H102KB5	1000P 50V
C689	ECEA0JKA220B	22 6.3V
C737	ECBT1H104ZF5	0.1 50V
C738	ECBT1H101KB5	100P 50V
C739	ECBT1H101KB5	100P 50V

Ref No.	Part No.	Values & Remarks
	<CD MECHANISM UNIT>	
	RESISTORS	
R501	ERDS2TJ103T	10K 1/4W
R502	ERDS2TJ103T	10K 1/4W
R503	ERDS2TJ102T	1K 1/4W
R701	ERJ6GEYJ4R7V	4.7 1/10W
R703	ERJ6GEYJ823	82K 1/10W
R704	ERJ6GEYJ102A	1K 1/10W
R705	ERJ6GEYJ103V	10K 1/10W
R706	ERJ6GEYJ102A	1K 1/10W
R707	ERJ6GEYJ474V	470K 1/10W
R708	ERJ6GEYJ154V	150K 1/10W
R709	ERJ6GEYJ683V	68K 1/10W
R711	ERJ6GEYJ154V	150K 1/10W
R712	ERJ6GEYJ221V	220 1/10W
R714	ERJ6GEY0R00A	0 1/10W
R717	ERJ6GEYJ101V	100 1/10W
R718	ERJ6GEYJ101V	100 1/10W
R721	ERJ6GEYJ101V	100 1/10W
R722	ERJ6GEYJ563V	56K 1/10W
R723	ERJ6GEYJ182V	1.8K 1/10W
R724	ERJ6GEYJ333V	33K 1/10W
R725	ERJ6GEYJ223V	22K 1/10W
R726	ERJ6GEYJ473V	47K 1/10W
R727	ERJ6GEYJ822V	8.2K 1/10W
R728	ERJ6GEYJ103V	10K 1/10W
R731	ERJ6GEYJ822V	8.2K 1/10W
R735	ERJ6GEYJ101V	100 1/10W
R736	ERJ6GEYJ101V	100 1/10W
R738	ERJ6GEYJ223V	22K 1/10W
R744	ERJ6GEYJ103V	10K 1/10W
R745	ERJ6GEYJ155V	1.5M 1/10W
R748	ERJ6GEYJ182V	1.8K 1/10W
R749	ERJ6GEYJ682V	6.8K 1/10W
R750	ERJ6GEYJ473V	47K 1/10W
R751	ERJ6GEYJ473V	47K 1/10W
R752	ERJ8GEYJ220V	22 1/8W
R753	ERJ6GEYJ102A	1K 1/10W
R772	ERJ6GEYJ273V	27K 1/10W
	CAPACITORS	
C501	ECBT1H221KB5	220P 50V
C701	ECEA0JKA330I	33 6.3V
C702	ECUZNE104MBN	0.1 25V
C703	ECEA0JKA101I	100 6.3V
C704	ECUZNE104MBN	0.1 25V

Ref No.	Part No.	Values & Remarks
C705	ECUZNE104MBN	0.1 25V
C706	ECUV1H272KBN	2700P 50V
C707	ECUV1E273KBN	0.027 25V
C708	ECUV1H472KBN	4700P 50V
C709	ECUV1C473KBN	0.047 16V
C710	ECUV1H182KBN	1800P 50V
C711	ECUWNE104ZFN	0.1 25V
C712	ECUWNE104ZFN	0.1 25V
C713	ECUV1C104MBM	0.1 16V
C714	ECEA0JKA101I	100 6.3V
C716	ECUV1H561KBN	560P 50V
C717	ECUWNE104ZFN	0.1 25V
C718	ECUVNC224KBN	0.22 16V
C721	ECUV1H150JCN	15P 50V
C722	ECUV1H150JCN	15P 50V
C723	ECEA1AKA221I	220 10V
C724	ECUV1C104MBM	0.1 16V
C730	ECUWNE104ZFN	0.1 25V
C731	ECEA0JKA221I	220 6.3V
C732	ECEA0JKA221I	220 6.3V
C733	ECUZNE104MBN	0.1 25V
C734	ECEA1AKA221I	220 10V
C735	ECUWNE104ZFN	0.1 25V
C736	ECUWNE104ZFN	0.1 25V
C737	ECUWNE104ZFN	0.1 25V
C738	ECUV1C154KBN	0.15 16V
C742	ECUV1E273KBN	0.027 25V
C743	ECUWNE104ZFN	0.1 25V
C744	ECUE1E822KBN	8200P 25V
C745	ECUE1H102KBN	1000P 50V
C747	ECUE1H222KBN	2200P 50V
C748	ECUV1H471KBM	470P 50V
C749	ECUZNE104MBN	0.1 25V
C750	ECUV1C104MBM	0.1 16V
C751	ECUZNE104MBN	0.1 25V
C752	ECUE1H152KBN	1500P 50V
C753	ECUV1H471KBM	470P 50V
	CHIP JUMPERS	
RJ701	ERJ8GEY0R00A	0 1/8W
RJ702	ERJ8GEY0R00A	0 1/8W
RJ703	ERJ8GEY0R00A	0 1/8W
RJ704	ERJ8GEY0R00A	0 1/8W
RJ707	ERJ8GEY0R00A	0 1/8W
RJ709	ERJ8GEY0R00A	0 1/8W
RJ714	ERJ8GEY0R00A	0 1/8W
RJ715	ERJ8GEY0R00A	0 1/8W

Ref No.	Part No.	Values & Remarks
RJ716	ERJ8GEY0R00A	0 1/8W
RJ717	ERJ8GEY0R00A	0 1/8W
RJ719	ERJ8GEY0R00A	0 1/8W
RJ721	ERJ6GEY0R00A	0 1/10W
RJ722	ERJ8GEY0R00A	0 1/8W
RJ723	ERJ6GEY0R00A	0 1/10W
RJ724	ERJ6GEY0R00A	0 1/10W
RJ726	ERJ6GEY0R00A	0 1/10W
RJ727	ERJ6GEY0R00A	0 1/10W
RJ728	ERJ6GEY0R00A	0 1/10W
RJ729	ERJ6GEY0R00A	0 1/10W
RJ730	ERJ6GEY0R00A	0 1/10W
RJ731	ERJ6GEY0R00A	0 1/10W
RJ732	ERJ6GEY0R00A	0 1/10W
	TEST JUMPERS	
TJ701	EYF8CU	TEST JUMPER
TJ702	EYF8CU	TEST JUMPER

Ref No.	Part No.	Values & Remarks

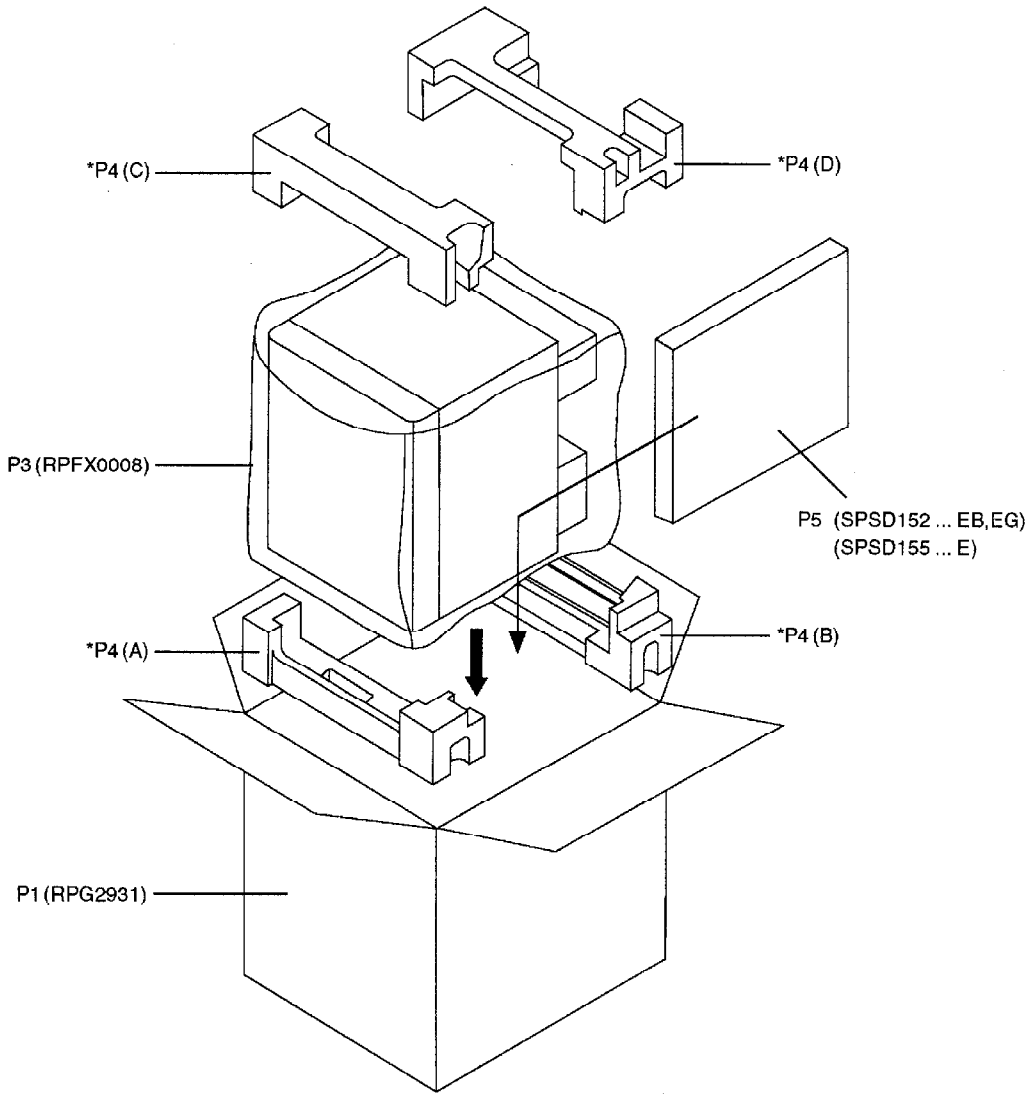
Ref No.	Part No.	Values & Remarks

■ Packaging (Refer to page 60 & 61 for the Parts List.)

P5 (SPSD152 ... EB,EG) : ACCESSORY CASE
(SPSD155 ... E)

A1 (EUR644340)	: REMOTE CONTROL
A6 (RFA0622-K1)	: FILE BOOK
P6 (XZB24X33C04)	: VINYL BAG
A2 (RSA0007)	: FM ANTENNA
A3 (RSA0010)	: AM LOOP ANTENNA SET
A4 (RJA0019-2K ... E,EG)	: AC CORD
A4 (VJA0733 ... EB)	: AC CORD
A5 (RFKSCH64MEK ... E)	: INSTRUCTION MANUAL ASS'Y
A5 (RQT3449-B ... EB)	: INSTRUCTION MANUAL
A5 (RQT3448-D ... EG)	: INSTRUCTION MANUAL
A7 (RQLA0321)	: NUMBER SHEET
A8 (SJP9009 ... EB)	: ANTENNA ADAPTER

P4 (RPN0954-1) — *P4 (A), *P4 (B), *P4 (C), *P4 (D)



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